THE BUILDER

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ARCHITECTURE & THE BRITISH ARCHITECT

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THIS WEEK'S NEWS

AN ALTERNATIVE DESIGN for the porch of Coventry Cathedral is illustrated. p. 38

IN A NEW YEAR MESSAGE to " The Builder," Mr. Harold Macmillan, Minister of Housing and Local Government, urges every town and village that can do so to justify a bigger local housing programme by proving that they can build those houses quickly. Other messages come from the Minister of Works and the leaders of the Industry. p. 40

THE JURIES' AWARDS in the R.I.B.A. prizes and studentships were announced on Tuesday night, and are printed on p. 43

A SELECTION of representative architecture completed in 1951 *is reproduced in a supplement, beginning on* p. 48

PETROL-FILLING STATIONS are the subject of an architectural competition, in three sections, to be promoted by Shell-Mex and B.P. p. 81

THE NEW BUILDING CENTRE has just opened at 26, *Store-street, Bloomsbury, W.C.* p. 81

THE REPORT of the Nuffield Provincial Hospital Trust, recently published, states that the Trust has carried out three experiments, designed to fit and serve a local need and at the same time to test and demonstrate various conceptions of a health centre. These experiments are described on p. 89

LEEDS CORPORATION'S WORKS DEPARTMENT has evolved a scheme to speed up housing by allowing builders to get on with their work with the minimum of delay, clerical work and financial anxiety. p. 93

THE HOPE that there need be no fear of a serious worsening of the European timber supply situation, thanks to the energetic efforts of trade circles in various countries, is expressed in the Quarterly Bulletin of Timber Statistics published by the United Nations Economic Commission for Europe, which has just appeared. p. 98

THE MINISTER of Housing and Local Government has appointed Lieutenant-General Sir Charles King, to be deputy chairman of the Stevenage Development Corporation. p. 99

THE CHALLENGE OF 1952

REPRESENTATIVES of the professional Institutions and trade Federations and Associations (which together form the M.O.W. Central Advisory Committee) are on Monday next to meet Mr. Eccles, Minister of Works, to answer his challenge to declare what are the conditions under which, in present circumstances, building output can be stepped up. The whole industry must hope that their representatives will speak with a united voice.

Mr. Eccles is a Minister who, if optimistic in regard to the future, is realistic about the recent history of production. In his New Year message to *The Builder*, given in this issue, he states : " The building industry is second to none in national importance, but its performance is not satisfactory. With the same labour force as before the war, the industry turns out less work . . . In 1951 the rate of building has slowed down."

Faced with this candid opinion, the industry knows where it stands. When it meets the Minister it must justify as fully as possible the present rate of production and cost of building which, six years after the end of the war, still compare so unfavourably with pre-1939 levels. It would be unfair that the industry should accept the whole blame for the unsatisfactory position to which the Minister draws attention. Many factors outside its control have largely contributed to the present state : among them have been the regrettable introduction of politics into house-building ; a multiplicity of controls, many of them necessary but not all well devised or operated ; a shortage of essential materials, often due to world shortages, but some, like timber, aggravated by unsatisfactory purchasing schemes, and others, again, like bricks, by wildly fluctuating demand consequent on sudden changes of plans for capital investment ; a large influx of unskilled men into the ranks of the operatives ; the growing pains associated with a policy of full employment ; and, not least, an almost total lack of real incentive to masters as well as to men.

These and other reasons will, no doubt, be advanced by the industry when it meets Mr. Eccles, and it would be less than just to ignore their appalling effect on productivity. Yet it will not be helpful to dwell overlong on such matters except to examine them to see how best their effects may be discounted for the future. What is needed is intelligent co-operation in laying plans to defeat to the greatest extent possible the economic difficulties obstructing the way to cheaper and more efficient building.

It is the industry's contention that, given as free a hand as economic conditions allow, it can go far to increase output and lower costs if there can be reliance on an expanding constructional programme and a matching supply of essential materials. Such a condition of things would restore buoyancy to management and give opportunity for the extension and more efficient operation of incentive payment schemes.

To create this condition is the Government's responsibility. To discharge it is not going to be simple ; few dispute the need for a rearmament programme, but none will deny the grave effect on supply and cost of building materials. A comparison

of prices of materials will show the considerable hardening which has taken place in the last twelve months ; there is no sign that this upward trend is likely to stop, and we may well see rationing by price becoming a factor as important as rationing by shortage. In all home-produced materials and plant, coal is the main limiting factor ; imported materials such as timber and the non-ferrous metals are already affected by recent dollar economy ; and last, and most serious, is the announcement that manufactured steel production in 1952 will be 1,500,000 tons below expectations, which will lead to further cuts of which the building trades cannot expect to escape their share. Mr. Eccles's task is one which no one will envy.

What contribution can the building industry make to overcome this catalogue of woe? First, it must accept all difficulties of supply, so long as these are inevitable. The challenge is to leadership and to management of building work. The industry as a whole has made a creditable effort over the past six years to serve the nation's need ; that effort must now be intensified and extended to include every individual and firm. The tendency observed of late to lay all the blame on others must be avoided ; attractive as it can be, it will not get us farther along the road to national recovery. Let each, instead, throw the spotlight of criticism on his own shortcomings, and strengthen weaknesses and make good deficiencies.

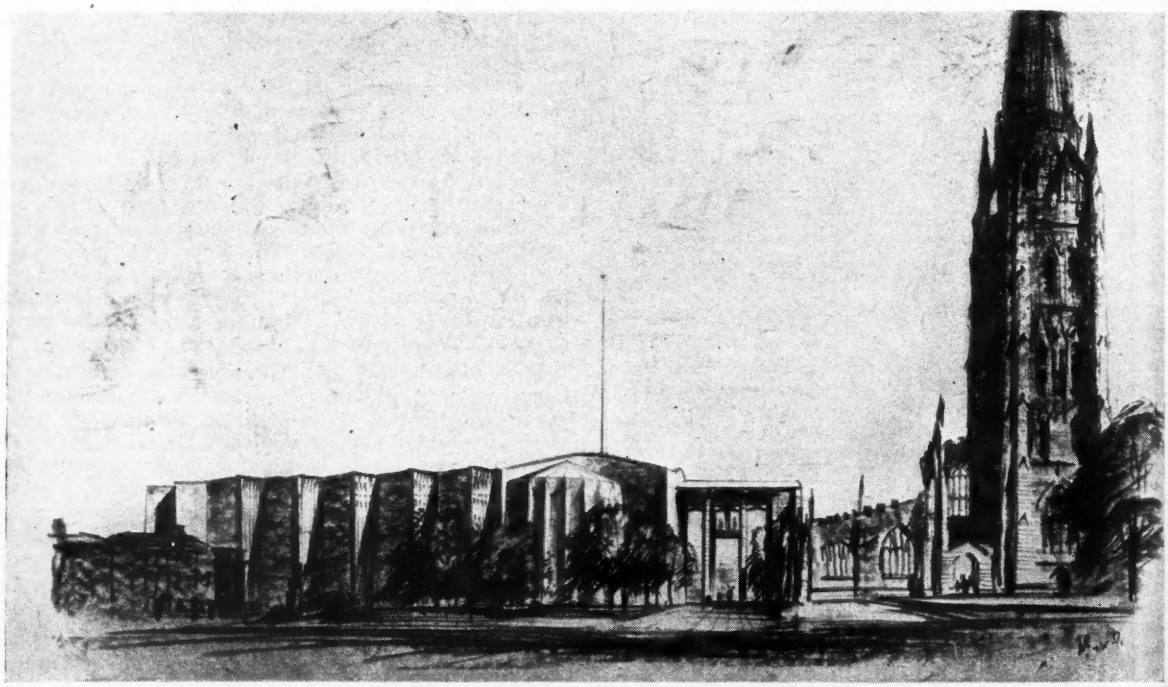
Let all, particularly, determine to make the fullest use of research to improve efficiency and to economise in use of materials. The inevitable cuts in steel allocation will force this on the industry ; steel framing may in general have temporarily to be abandoned except for vital work, and more use be made of alternative methods for multi-storeyed buildings, such as prestressing and reinforced brickwork. All this points to the need for an improved information service for the results of research, to which we alluded in greater detail last week. There must be greater emphasis, too, on the selection and training of clerks of works and foremen.

The year ahead offers the building industry, as also the nation, the biggest challenge since 1939. We can refuse to meet it, pleading the weight of the odds against. We can, on the other hand, regard those odds as a challenge to courage and to the industry's native inventiveness and skill, and it is in this spirit that we believe our leaders will meet with Mr. Eccles on Monday, and together lay a plan. Whatever shape that plan takes, it will become the duty of everyone, from the heads of the professions down to the rawest labourer, to see that its success is not put in jeopardy by any fault of his. We believe that we speak for the whole building industry when we assure the Minister that no well-laid plan to increase building output will fail for lack of effort and good will.

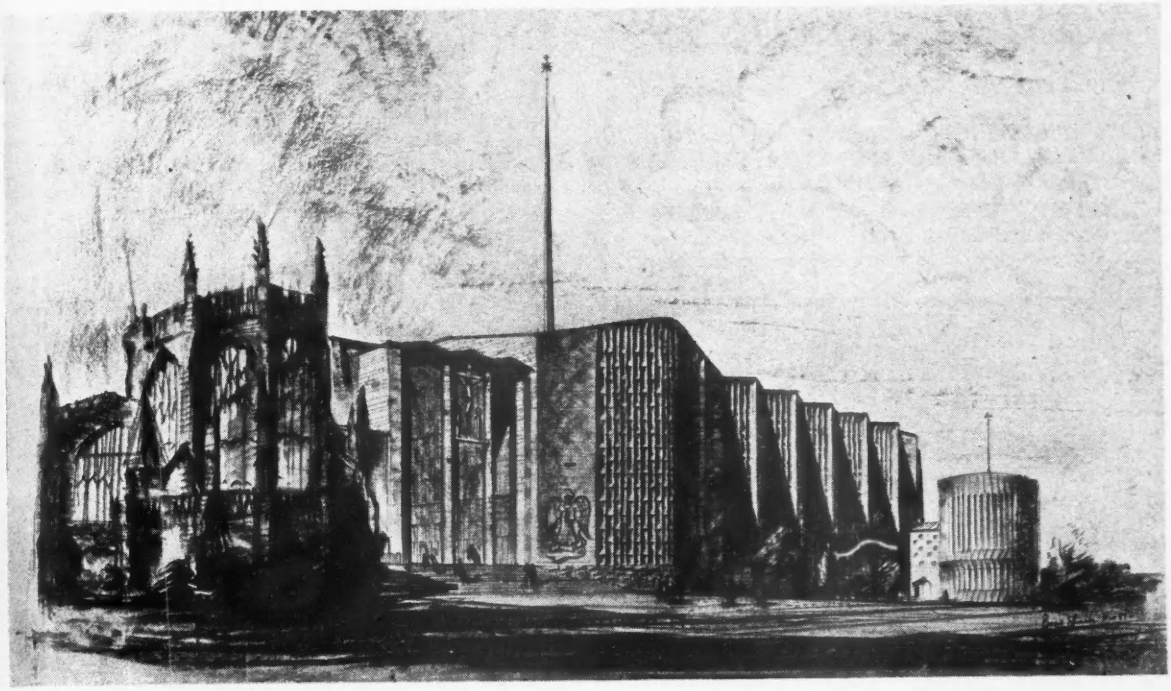
PRICES OF MATERIALS

SO case-hardened have we become to the upward adjustment of price, that our Annual Comparison of prices of the principal building materials (given on page 97) may hardly cause a stir. Yet it should do so. By comparison with January last the following percentage increases are now noted : Flettons (14 per cent advance) ; pit sand (16) ; Portland cement (17) ; slates (25) ; rolled steel joists (32) ; sheet lead (27) ; softwood, carcassing quality (62) ; and white lead paint (41).

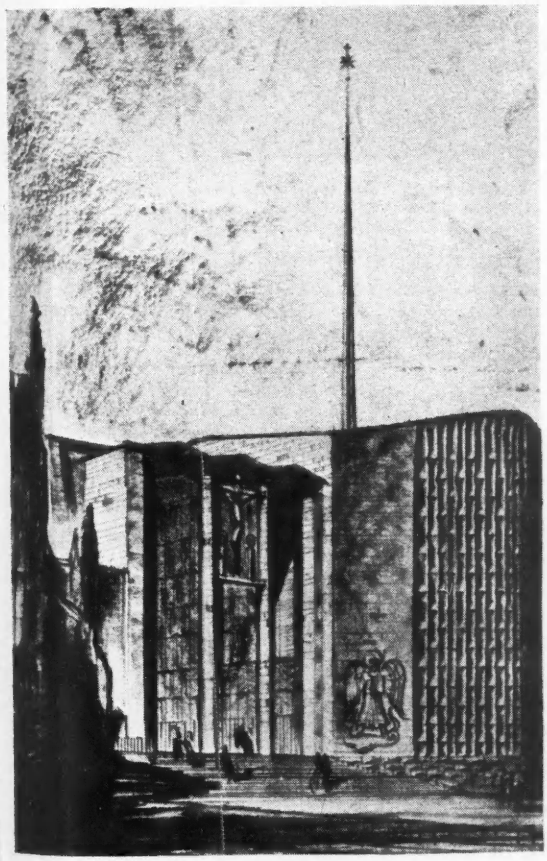
These prices, it is to be remembered, are a factor in the high cost of building outside the control of the building industry. Moreover, for the greater part the advances are due to the increased cost of coal, steel and transport. Is it mere coincidence that all these are nationalised industries?



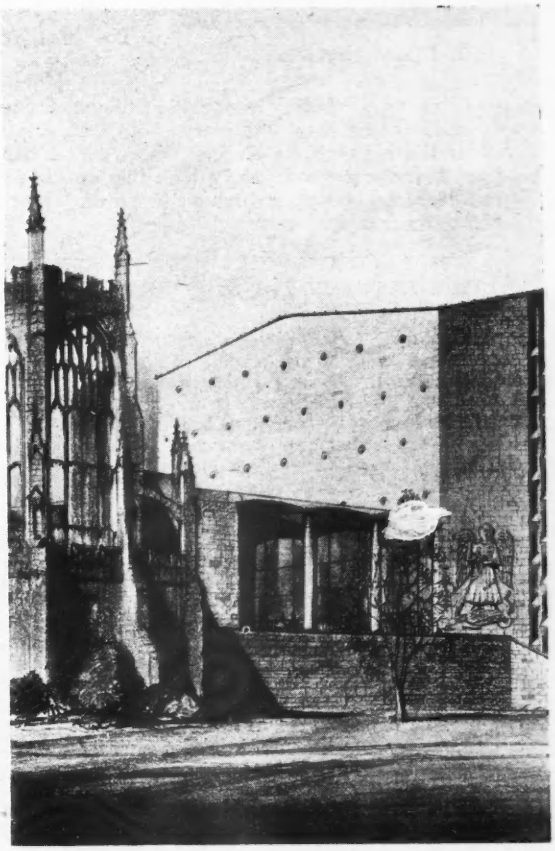
COVENTRY CATHEDRAL : These drawings show one of the alternatives in the general development of the design for Coventry Cathedral. This scheme has been seen by the Fine Art Commission but has not yet been approved by the Reconstruction Committee. The difference between these and the original designs (as the comparison on facing page will show) is that the porch goes up to the full height of the internal concrete vault, making a stronger link between the new and the old and the development of a paved area on the Priory-street side. The Chapel of Unity too has been slightly modified and the windows behind it on the main cathedral wall have been cut out. A tall slender flêche is being considered to mark the new cathedral from a distance. The architect is Mr. Basil Spence, O.B.E., F.R.I.B.A., F.R.I.A.S.



COVENTRY CATHEDRAL: Perspective as from Priory-street, showing new design for porch.



Detail of design for the new porch.



Detail of porch as shown in competition design.

PROSPECT FOR 1952

New Year Messages to "The Builder"

FROM THE RIGHT HONOURABLE HAROLD MACMILLAN, P.C., M.P., MINISTER OF HOUSING AND LOCAL GOVERNMENT

NINETEEN-FIFTY-TWO will be a challenging year for the building industry. Everybody agrees that we need more houses, and everybody knows the supply of labour and materials is necessarily limited to meet vital needs like defence. But I am not prepared to accept any obstacle as insurmountable, and I am sure the building industry as a whole feels the same. Flexibility in organisation, ingenuity in methods, and good consistent work from all concerned are three requirements if we are to infuse a sense of urgency to speed our rate of building.

Mr. Harold Macmillan.

Towards the end of last year I altered the rigid house-building ratio, thereby giving the building industry more freedom to help it to fulfil its task. In sending to all engaged in the industry my sincere wishes for a happy New Year, I urge every town and village that can do so to justify a bigger local housing programme by proving that they can build those houses quickly.

MESSAGE FROM MR. DAVID ECCLES, M.P., THE MINISTER OF WORKS

THE building industry is second to none in national importance, but its performance is not satisfactory. With the same labour force as before the war, the industry turns out less work. We dare not disregard such falling off in this vital industry. The British standard of life depends on production. The need for houses, schools, power stations, factories, commercial and public buildings, and buildings for defence and other purposes has never been greater, but in 1951, the rate of building slowed down. It is easy to find excuses such as shortages of materials and so on, but I hope no one in the industry is content to put all the blame on someone else.

Being a Conservative, I look to those at the top to give the lead. I think there are many ways in which the Government can give the industry scope to expand and this we will try to do. But I do ask that in 1952 those responsible for management will consider efficiency and speed of output as of the very highest national importance.

The Minister of Works opening the recent Building Exhibition at Olympia. On his left are Mr. A. Graham Henderson, PRIBA, and Mr. Stephen Hudson, President, NFBTE.

FROM THE PRESIDENT OF THE R.I.B.A.

I HAVE very great pleasure in sending a New Year message to the readers of *The Builder* during my second year as President of the Royal Institute. In the message which I sent to you twelve months ago I stated that at that time it was not possible to look ahead without a feeling of anxiety, but that if we could secure more settled international conditions there was undoubtedly a busy future in store for the building industry.

As most of us anticipated, 1951 has not been an easy year for the industry, but I think we can nevertheless congratulate ourselves on the efforts which have been made to overcome the difficulties resulting from the necessary concentration of the country's resources on the defence programme. The Festival of Britain exhibitions have greatly stimulated public interest in architecture and, while we cannot be complacent or self-satisfied, I think it can be claimed that the contribution which the architects made to the success of these exhibitions has helped greatly to secure the profession in the public's esteem.

As I have said in my addresses to the Allied Societies from time to time, the difficulties and restrictions with which we are confronted should be regarded as a challenge to the profession and call forth the best from all of us. We must of course take the fullest possible advantage of all developments in building research and in this connection let us hope that there will be real and lasting benefits from the discussions which took place during the period of the Building Research Congress last September.

I am glad to know from the pronouncements of our new Minister of Works that each section of the industry is to state its requirements both of labour and materials and that the Government will then do its utmost to see that these are satisfied to enable the industry as a whole to pull together. A heavy responsibility rests upon the architectural profession to co-ordinate the building industry, but I have no doubt that the members of the profession will rise to the occasion and in that belief I express to all your readers my best wishes for 1952.

A. GRAHAM HENDERSON.

FROM THE CHAIRMAN, THE QUANTITY SURVEYORS' COMMITTEE, R.I.C.S.

THOUGH it gives me much pleasure to send a New Year message to the readers of *The Builder*, I do not find it easy to be optimistic about building in the coming year; the prospects of the industry are still clouded by the international situation and by our own economic difficulties.

Rearmament continues to have first call on all available materials. This, with the prevailing shortage of steel and with the high priority which must be given to housing, seems to indicate that a resumption of the general building programme is not yet in sight.

Nevertheless, there have been encouraging signs, especially the promise given by the new Minister of Works that the Government would, as soon as possible, announce a firm long-term building programme on which the industry could rely, and his invitation to the industry and to its allied professions to tell him which controls they would like to see removed.

With all that has been said and written during 1951 about the need for increasing

THE NEW LIBRARY, CANTERBURY CATHEDRAL. John L. Denman, V-P.R.I.B.A., Architect.

From a water colour drawing specially made for "The Builder" by H. FRANK HOAR.

production, it is disappointing to learn that schemes for bonus and incentive payments were in operation on less than one-third of the building sites throughout the country. It has been said again and again, and it cannot be repeated too often, that higher productivity is the only cure for rising prices and the only sure means of reaching a higher standard of living.

There is still room for improvement in the use of machinery to help reduce the man-hours of unskilled labour required for house-building, and it is to be hoped that 1952 will see real progress in this field.

The need for higher productivity calls for higher standards of craftsmanship and technical skill, and although 1951 has seen progress in devising schemes for the training of craftsmen, much still remains to be done.

Builders of small houses will have been greatly encouraged by the proposal of the Minister of Housing and Local Government to increase the permitted proportion of licences for private building. It will be interesting to see how far local authorities will go in granting the increased facilities and what the general effect of the new policy will be.

May your readers enjoy all happiness and good fortune in 1952.

L. E. HENDERSON.

FROM THE PRESIDENT, I.A.A.S.

WE begin the New Year full of hope for the future, and whether or not that future is happy and prosperous depends in large measure on the extent to which we profit from past experience.

No useful purpose is served by dwelling on the difficulties under which the industry has laboured in the past, but a most useful purpose can be served if, in the knowledge of the causes of those difficulties, we concentrate on overcoming them and thus ensure a happier and more progressive future for our industry and our people and, let there be no mistake about it, whatever contributes to the well-being of the building industry contributes also to the benefit of the nation as a whole.

Difficulties can be surmounted if they are faced with confidence, courage and goodwill.

Less talk of war and destruction and greater concentration on peace and reconstruction should be our watchword for 1952.

To achieve this desirable end there must be friendly understanding and co-operation between all professional, technical and trade organisations.

The recent pronouncement by the Minister of Works, that he expects each section of the industry to state its needs, emphasises the necessity for a realistic outlook and the importance of unity.

We must urge that controls and restrictions be reduced to the absolute minimum, compatible with national security, and for greater speed and flexibility in matters relating to consents and licensing.

Let us then go forward in 1952 in the British spirit of looking upon difficulties as being surmountable by confidence, courage and goodwill, and let us show an equal British readiness to understand the difficulties of the other fellow.

I hold firmly to the view expressed in my Presidential message to the members of the Incorporated Association of Architects and Surveyors when assuming office this year, that the maintenance of the essential characteristics and the integrity of the professions is in the hands of the professions themselves, and most particularly in the keeping of their representative bodies.

There is no room for dissension and rivalry between responsible professional associations. We all have a common aim, and as far as architecture and surveying are concerned, I again salute the senior bodies, who have worthily maintained the high traditions of the professions.

I end this message with the hope that, strong in the goodwill and co-operation of all in the professions, and inspired to maintain the qualities of integrity and culture, we of the Incorporated Association of Architects and Surveyors shall be able to make a full contribution to the well-being of the joint professions of architecture and surveying.

May 1952 be a year of peace and progress in full measure.

F. W. DEAN.

FROM THE PRESIDENT OF THE N.F.B.T.E.

I WELCOME the opportunity to send, through the columns of *The Builder*, a New Year message to the building industry.

The general economic situation, as indicated by the Prime Minister in his broadcast just before Christmas, and the heavy demands that will be made on all industries, including ours, make it imperative that we strive towards even greater efficiency during 1952.

The programme of work before us stretches far into the future, and while we may look upon 1951 as a year of solid worthwhile achievement, despite the difficulties, let us look to 1952 for a more plentiful supply of building materials—the first essential to speedy and economic building—and that freedom from controls and ratios which will give the industry the first real opportunity since the war to show what it can do when given the chance.

The Government has pledged itself to create the right atmosphere for increasing the national output. Whilst we in the building industry recognise the difficulties, we know that if the Government can see their way to make more materials available they will have little cause to worry about output on the building sites. With a steady flow of materials, and the opportunity it gives for efficient organisation of the work, 1952 could well be a record year for the industry.

I would conclude by saying that whatever the future may hold for us there will always be the need for increased personal effort by us all, with everyone—irrespective of the part he plays—treating the job not only as an operation but as an opportunity for co-operation. Only so will we make our full contribution to the well-being of the nation.

STEPHEN HUDSON.

FROM THE GENERAL SECRETARY, N.F.B.T.O.

ONE can hardly pretend that the outlook for the New Year is rosy, but the building industry, as always, is ready to play what part it can to re-establish prosperity. The Minister of Works, Mr. Eccles, asks the industry to state its needs, and I believe it is willing to co-operate with any Government, where it is possible to do so, in the interests of the country. The industry knows its needs and can state them without difficulty, but it has, unfortunately, little say in determining the kind and quantity of work to be done. These decisions lie with the Government, who will presumably, as they have done for some time past, lay down a building programme to fit in with the wider economic and capital investment plans for the country as a whole. No doubt the Minister would like to "give the industry its head," but he, one must assume, has to adapt his plans to the Government's over-riding economic policy. I am sure the operatives would much prefer to devote their skill and energy to peaceful pursuits, such as lie in the construction of houses, schools, hospitals, clinics, and so on, but whether such work is possible remains to be seen. I hope it is, and in this spirit wish a happy and prosperous New Year to *The Builder*, its staff and readers.

RICHARD COPPOCK.

FROM THE CHAIRMAN OF THE BUILDING APPRENTICESHIP AND TRAINING COUNCIL

THE building industry looks forward to a New Year which will present formidable problems for solution. The industry has been invited to state its needs, and surely its prime need at the present time is that the programme of building work laid down shall be adequate, stable, and secure for a period of years. With this solid foundation building firms can plan ahead, and organise their resources to the best advantage.

As Chairman of the Building Apprenticeship and Training Council, I have mentioned in previous New Year messages that the annual number of apprentices recruited by the industry falls below the target figure approved by the Council to cover wastage. The engagement of an apprentice by an employer is an act of faith in two respects, first, that the boy will justify his selection, and second, that building work of the right type and variety will be available for training him. I can-

"THE BUILDER" DISTRICT SURVEYORS' MAP

"The Builder" Map of London, showing the L.C.C. areas administered by the District Surveyors, has now been published, and is obtainable, price 1*s.* 6*d. post free, from the Publisher, The Builder House, Catherine Street, Aldwych, W.C.*2.

A few extra copies of the colour plate of Canterbury Cathedral (contained in the current issue) are also available from the Publisher. These will be sent rolled and post free for 1*s.*6*d.*

not therefore emphasise too strongly that the adequacy, stability, and security of the building programme are vital factors in the recruitment of a sufficient number of new apprentices to the industry. Without recruitment of apprentices on the right scale, the future requirements of the industry in man-power cannot be met, and the standards of craftsmanship in the various crafts cannot be maintained.

I know that employers and operatives are earnestly striving to increase the number of apprentices. I wish them all possible success in their joint efforts, and I look forward with confidence to a substantial improvement in recruitment in 1952.

GEORGE GATER

FROM THE PRESIDENT OF THE FEDERATION OF ASSOCIATIONS OF SPECIALISTS AND SUB-CONTRACTORS

AT the close of 1951 there were many voices upraised to warn us of impending difficulties and disaster. Nevertheless, at this time of year it is a human instinct to try to look forward with optimism and I have no wish to dwell on facts which are well known to my readers in all their unpleasant implications.

An optimistic outlook is, however, one of the greatest of dangers if it is not tempered by realism. Since the end of the war we have had too much easy belief that things would turn out all right; but that mood is, I believe, now passing and with it, too, the apathy that seemed to beset those who have had a realistic appreciation of the trend of affairs. Possibly it is because we have reached the end of our recuperation after the war that I believe that once again I can feel around me a new stirring and a new determination to tackle the parlous condition to which events have brought us.

In the building industry we have claimed in the past that we were prevented by controls and by outside dictation from giving of our best. We have now been challenged to say for ourselves which controls should go and which must still be maintained until things become easier. Let us face it that the first reaction was one of bewilderment; but already that phase has passed, and the different sections of the industry have got down in a practical manner to consider the answer they will give to the Government's challenge. I know that this is the case in the Federation for which I speak.

At the beginning of 1952, therefore, my appeal to the industry is that it should recognise realistically but without dismay the difficulties which surround us, and face with that determination which justifies optimism the responsibility which has been fairly laid upon us to contribute to their solution. The task is not beyond our powers if we tackle it squarely, and we know it.

It is therefore in full confidence of this success and of a brighter future that I send to the industry generally and to the members of my own Federation in particular my most sincere wishes for a happy and prosperous New Year.

DOUGLAS H. GREEN.

POSSIBILITIES IN PLANNING

Making Greater Use of the Third Dimension

By H. V. LANCHESTER, Hon.Litt.D, FRIBA, P-PTPI

WHILE there is a vast amount of practical knowledge on planning methods of all types, it seems clear that we have now reached a point at which there would be definite advantages in the study of the basic principles underlying planning.

The initial object of planning is the utilisation of space to fulfil human requirements. For the purpose of analysis space is described as of three dimensions which may be assumed to be north-south, east-west and vertical. Mathematicians and philosophers have suggested the possibility of a fourth and even further dimensions; but the only acceptable fourth for our purposes is one representing time, where space can be occupied for different purposes at different periods.

We may open our programme with planning for specific structures, which has for a long time been three-dimensional, though it obviously started from a two-dimensional conception. Altitude, while recognised, did not, as buildings were all of one storey, materially influence the plan, and only later, almost within historic time, did the problem and possibilities of superimposed storeys and varied heights develop. It is superfluous to include here the historical study of the influence of the materials, equipment and labour available in design and planning, as this branch of the subject has already been dealt with in detail by numerous authors from Vitruvius onwards.

VALUE OF SPECIALISATION

A more profitable approach to the subject of this essay is derived from the structure of animals, and the most convenient example is the anatomy of the human form. In no type of planning hitherto devised have so many conflicting demands been made and still less been fully met as in our own physical structure. Were this demanded of us we might find the difficulties insuperable, but fortunately there are ways of escape by specialisation. Sites and buildings can be devoted to nutrition, recreation, productive and mental or physical activities, and reasonable facilities can be provided for these specific objectives.

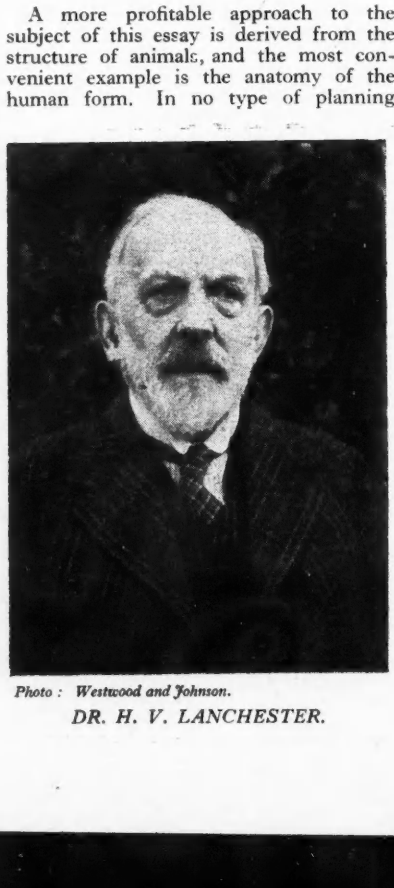


Photo: Westwood and Johnson.

DR. H. V. LANCHESTER.

As regards the internal treatment of buildings, we have, perhaps unconsciously, derived many hints from anatomical structure in the way of ducts, services, etc., but it is doubtful if we have yet taken full advantage of all nature's clever tricks in this respect—in any case, this is a minor detail. One of the main features has still to be appreciated, more especially by those who are thinking beyond the structural units to the grouping and massing of these—the town planners, who have so far barely started on a method comparable with that characterising the nerves, arteries and veins in the human body.

COMPREHENSIVE PLANNING

Before elaborating this point we had better step back to take a view of the story of comprehensive planning. This, like structural planning, started as a two-dimensional affair and has for economic reasons shown a marked tendency to remain so. Only two activities have brought in the third; the first of these was prehistoric, the use of water transport involving bridges; the second was the high speed railway, having a similar effect. These, though suggesting occasional three-dimensional town planning, did not afford a dominating case for its use, and at the present time such an expedient can only be advocated in the more highly congested centres; other planning is likely to remain as generally, two-dimensional.

Returning to the previous paragraph, it is clear that one of the main problems of the planner of the present day is to devise on the two-dimensional plane a system of traffic routes corresponding to the independent arteries and veins of our bodies; one for vehicles and the other for pedestrians (and perhaps pedal cyclists). It is easy to prepare a diagram showing the general idea of such a scheme. Draw a main artery along the left hand side of your paper and another on the right, (A.A), assume the distance between them to be, say, 1,000 yards, connect these with cross service roads (B), some 700 yards apart; midway between these place self-contained strips 100 yards wide comprising markets, schools, open spaces, etc.; give access to these strips by cul-de-sac or loop roads (C) running out of (B), servicing houses on each side. Interlocked with the roads are footways from the house gardens to the open spaces, schools, etc. These can thus be reached on foot without

at any point crossing the service and other traffic.

Of course such a diagram is rather a crude rendering of a good and interesting lay-out, but it may suffice to indicate the principle. A unit such as this would require some three-dimensional planning to link it up with its surroundings and this would depend largely on the conformation of the ground and other natural features characterising the site, as well as the programme of requirements based on the social structure. Preliminary indications of planning on the lines advocated above have appeared on both sides of the Atlantic.

Our attention must now be given to the acute congestion in the central areas of the great cities, which is characterised mainly by the inadequate provision for the movement of traffic and pedestrians. In early days the roadways were used in common by all: vehicles, animals, and pedestrians. Later, sidewalks were found necessary, to separate the traffic, and proved adequate as long as wheeled traffic did not much exceed double the speed of the pedestrian, but now that this habitually moves at about six times the speed, and is capable of much more, the pattern of road and pavement is obsolescent. What then appears to be the appropriate programme for the future? We are forced to consider a three-dimensional solution which will offer a logical arrangement in place of the present confused one. When first the railways came into the picture they took an upper or lower level according to the formation of the ground on their routes; since then the tendency has been towards the lowest level, which has an obvious advantage as regards amenity. In London, owing to geological conditions, the tube lines are exceptionally deep, but a minimum depth might be defined as 24 ft. below the vehicular road level. This would allow for a series of specifically pedestrian routes at a depth of 10 ft. usually, but not necessarily, following the lines of the present roads.

UNDERGROUND FOOTWAYS

The advantages of placing the footways below the roads are as follows: if above they would have to be 18 ft. higher instead of 10 ft. lower, the depth of a single floor of adjacent buildings, and therefore an additional 28 ft. above the level of tube and other stations. In the lower position they would normally be protected from the weather; they should not take the familiar but unattractive form of a glazed brick tunnel, as they could have open frontages and approaches to the retail stores, places of entertainment, etc., which would probably be more used than those from the roads overhead. Artificial lighting and ventilation would undoubtedly be required. The problem of car parks remains; these might be provided at the footway level on marginal sites or at upper levels where found appropriate or economical. Moreover, the removal of so many pedestrians from the present roads with more facilities for one-way traffic would free a proportion of their area for parking. It is thought that the opportunities for comprehensive reconstruction in many of our cities would facilitate the initiation of operations on these lines.

It may now be as well to pass on to some of the broader aspects of planning. Buildings and their adjuncts may be classed under two main heads: those connected with production and distribution for the essential needs, such as factories, warehouses, administrative offices, etc., and homes and all ancillary works providing the amenities of life. The first depend for their successful functioning so much on judicious placing and relationship to natural supplies that their distribution is now receiving more careful study than in past times, and the meaning of the term "analysis of movement" is fairly well recognised both outside and within the walls of the various structures employed.

ADJUNCTS TO THE HOME

The other class, based on the homes, makes hardly less complex demands and has not, owing to the less dominant pressure of economic considerations, received quite the same intensity of study. The homes themselves have had close attention and the complementary provisions for mental and physical culture in educational building, libraries, hospitals and community centres have been fairly well defined by sociologists.

THE FUNCTION OF PLANNING

It is the function of planning to put into material form the conclusions reached by this science and to embody them in a comprehensive form. It is also necessary to bring into the account the links between the educational series and its two main objectives, the one towards a fuller appreciation of the value of a broad mental outlook, and the other aiming at scientific developments in production.

Returning to the distribution and structural design of homes, the planner needs to be a student of economics and of psychology as a basis for his work. He will find in Dudley Stamp and Seebohm Rowntree good guides for these aspects. If going into them on their international implications, the views of Le Play, expounded by Patrick Geddes, will be of service. These sociologists provide a wide outlook on human life and habits from childhood to old age.

RIBA PRIZES AND STUDENTSHIPS

Juries' Report and Awards

THE report of the juries for the R.I.B.A. Prizes and Studentships for 1952 was made known at the general meeting held on Tuesday night at 66, Portland-place, W.1, as follows:

THE TITE PRIZE, A CERTIFICATE AND £100: 187 candidates took part in the Preliminary Competition, and of these 11 were allowed to proceed with their final drawings. In the Final Competition designs have been submitted under the following mottoes: "Wallbottle," "Sagittarius," "Tom - Sawyer," "Fledermaus," "Nibs," "Corsair," "Dionysius," "Eneleh," "Pericles," "Firenze," and "Ea."

The jury recommend that the prize be awarded to the author of the design submitted under the motto "Dionysius." (Mr. D. M. McDonnell (Probationer), of Cambridge.)

THE SOANE MEDALLION AND £120: 103 candidates took part in the Preliminary Competition, and of these nine were allowed to proceed. In the Final Competition designs have been submitted under the following mottoes: "Vanina," "Magpie," "Discobolus," "Nikki," "Surely," "Tribune," "Jonathan," and "Tyke."

The jury recommend that the Soane Medallion and £120 be not awarded.

THE PUGIN STUDENTSHIP, A SILVER MEDAL AND £80: Drawings have been submitted by the following: R. W. Brunskill (A) and E. Lloyd Hughes (A).

The jury recommend that the Pugin Studentship be awarded to E. Lloyd Hughes. The jury also recommend that a Certificate of Hon. Mention be awarded to R. W. Brunskill.

THE OWEN JONES STUDENTSHIP, A CERTIFICATE AND £100: Drawings have been submitted under the following mottoes: "Vorsum," "Pop," "Misha," and "Zodiac."

The jury recommend that the Owen Jones Studentship be awarded to the author of the drawings submitted under the motto "Zodiac." (Mr. David Radford (Student R.I.B.A.) of Edgbaston, Birmingham.)

THE SILVER MEDAL FOR AN ESSAY AND £50: Essays have been submitted under the following mottoes: "Finlandia," "Tallwoods," "Apologia," "Ambo," "Zax," "Jerboa," "Abaciscus," "Vidi," "Amwell," "Angelo," "Wallacia," "Nonsense," "Hocsolum," "Humanist," "Quis," "Ragbolt," and "Bernini."

The jury recommend that the Silver Medal be awarded to the author of the essay submitted under the motto "Angelo." Mr. H. A. Meek, B.A.(Arch.), A.R.I.B.A., of Manchester.)

Also that a Certificate of Hon. Mention be awarded to the author of the essay submitted under the motto "Ragbolt." (Mr. E. H. Jamilly, Dip.Arch., A.R.I.B.A., of London, N.W.2.)

THE R.I.B.A. ALFRED BOSSOM RESEARCH FELLOWSHIPS FOR POST-GRADUATE RESEARCH: Drawings and testimonials have been submitted by the following: Thomas Howarth (A), G. J. J. Hunt (A), E. D. Mills (F), Daniel Roth (A), Joseph B. Singer (A), and W. A. Singleton (A).

The jury recommend that the Alfred Bossom Research Fellowship of £250 be awarded to Thomas Howarth (A).

THE ARTHUR CATES PRIZE AND £80: No entries submitted.

THE GODWIN AND WIMPERIS BURSARY: A SILVER MEDAL AND £245: Drawings and testimonials have been submitted by R. N. Guy (A) and G. B. Oddie (A).

The jury recommend that the Godwin and Wimperis Bursary be awarded to R. N. Guy.

THE GRISSELL GOLD MEDAL AND £35: Drawings have been submitted under the following mottoes: "Haron," "Cerem," and "Jacobin."

The jury recommend that the Medal be not awarded.

THE HENRY SAXON SNELL PRIZE AND THEAKSTON BEQUEST: Drawings and testimonials have been received from: John Holt (F), R. Hopkins (A) and G. D. Sykes.

The jury recommend that the Prize and Bequest be not awarded.

THE HUNT BURSARY AND £75: Drawings and testimonials have been submitted by the following: D. A. W. Lovejoy (A) and Alan Tate (A).

The jury recommend that the Bursary be awarded to D. A. W. Lovejoy.

THE BANISTER FLETCHER MEDAL FOR AN ESSAY AND £26 5s.: Essays have been submitted under the following mottoes: "Aquarius," "Transome," "Quaystone," "Erro," "Argo," "Columba," and "Nelson."

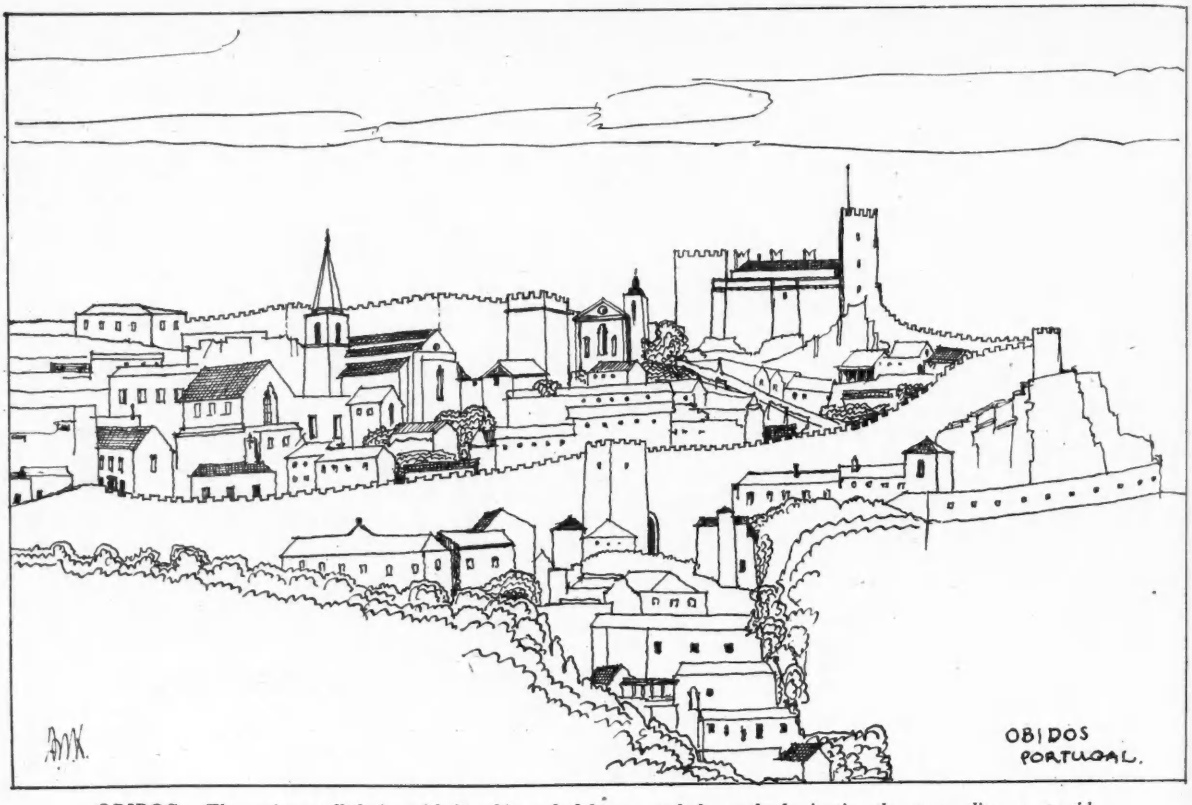
The jury recommend that the Medal be awarded to the author of the essay submitted under the motto "Columba." (Mr. J. B. Lehrman (Probationer), of London, E.5.)

R.I.B.A. PRIZES FOR PUBLIC AND SECONDARY SCHOOLS: (*a*) *R.I.B.A. Prizes for Essays.* No essays submitted. (*b*) *R.I.B.A. Prizes for Sketches:* Sketches were submitted on behalf of two competitors. The jury recommend a prize of £7 7s. to Ian C. Thornton, The Grammar School, Manchester, for his drawings of Baguley Hall, Lancashire; and a prize of £3 3s. to J. Hendry, The Grammar School, Northampton, for his drawings of Kingsthorpe Church, Northants.

THE ATHENS BURSARY AND £125: The President of the R.I.B.A. in consultation with the Officers of the Board of Architectural Education has awarded the Athens Bursary and £125 to D. S. Paterson (A).

THE HENRY L. FLORENCE BURSARY AND £350: The President of the R.I.B.A. in consultation with the officers of the Board of Architectural Education has awarded the Bursary to C. I. Hobbis (A).

THE ANDREW N. PRENTICE BEQUEST (£150): The President of the R.I.B.A. in consultation with the officers of the Board of Architectural Education has awarded the Bequest to Gordon E. Michell (A).



OBIDOS : The ancient walled city with its whitewashed houses, and the castle dominating the surrounding countryside.

A HOLIDAY IN PORTUGAL

By P. B. KENYON, MA (Cantab.)

Photographs by P. B. Kenyon. Sketches by Arthur W. Kenyon, CBE

DUE to its distance from this country, Portugal has not been greatly visited in the past by British tourists, but as Continental travel becomes easier and a greater number of people share a general desire to see more of Europe, it will in time become better known—and with very good reason—for in Portugal all the pleasures of a holiday abroad, either by the sea or inland, can be enjoyed.

First of all how can one approach Portugal—especially those who wish to take their car? There are two means and both of these were utilised on the holiday described in this article ; I myself taking the car through France, and my father, who went on an independent trip, taking his car by boat to Lisbon. This account is therefore based on both our experiences and is the result of our joint views.

The normal route is across France, down through the Chateau country and through the pine forests of Les Landes, through the Western Frontier of France and Spain, and then across the rather barren Sierras of Northern Spain. From the sea-side resort of San Sebastian the route goes through the towns of Vittoria, Burgos, with its world-famous cathedral, Salamanca, and its surrounding cork forests, where every few yards one sees storks standing by the side of the road, and so into the northern part of Portugal, either to Oporto or to Coimbra—a drive of some 1,000 miles, full of interest, but perhaps rather an effort to some people.

The other way is to take the car by boat to Lisbon. This in itself is rather an adventure as shipping companies these days are far from helpful with their advance bookings, which appear most susceptible to cancellation at the last moment. However an Argentinian line with some wonderful cargo boats proved the answer and made a definite booking.

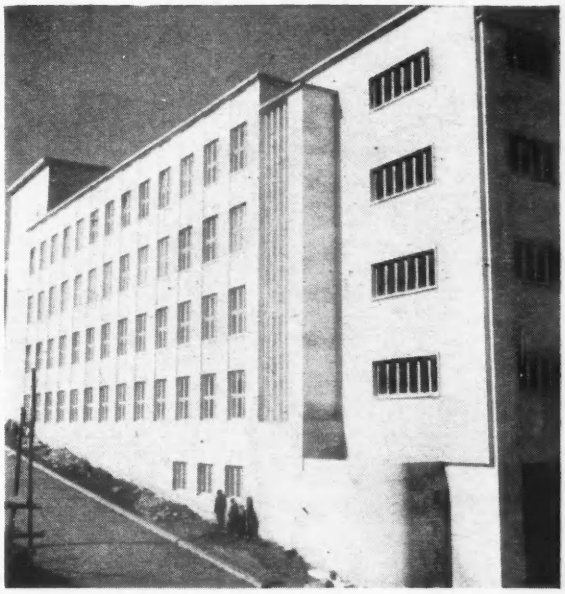
One is used to the organisation for taking a car across the channel and the arrangements to take a car to Lisbon seem formidable compared to this ; carnets, international driving and car licences all stay the same, but the instructions to drain off all petrol and oil and disconnect the battery are a little disconcerting. We had to deliver the car to the Royal Victoria Docks a day before sailing, and we left it and our carnet in the hands of one of the officials, with no troubles and without even seeing the customs !

The following day we arrived with our luggage at the same place ; the car was already on board, and we embarked on our boat, the S.S. *Presidente Peron*. These boats are mainly cargo boats with accommodation for about 50 passengers, although on this trip there were only about 20 as far as Lisbon. They are very luxurious with well appointed cabins and lounges, etc., and the food is excellent, but as we went on board in London that was a joy we still had to discover.

We sailed on Friday afternoon, and went seemingly for hours through that maze of docks and quays which form the Port of London, till finally we came to the lock that let us out into the Thames Estuary. Our first call was at Le Havre, where the boat took on a cargo all through the day, including many French cars and other merchandise. The Bay of Biscay was calm ; there was little to do in the boat so one could relax and forget the cares of the world. Disembarkation at Lisbon was also simple, though slow, but as we were due to stay there for several

COIMBRA : The main quadrangle of the University.

COIMBRA: The new buildings of the University, with the old quadrangle in the background.



COIMBRA: Another view of the new University buildings.

days we could afford to wait while the various formalities were observed!

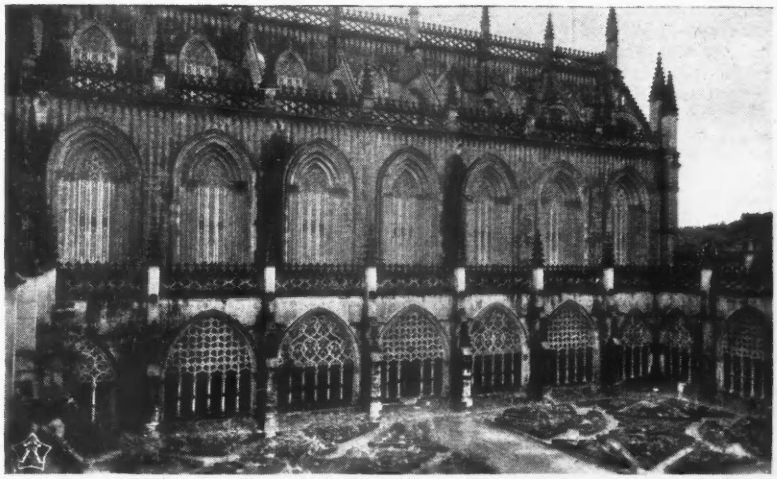
To return to the route: from Spain and coming into Portugal from the north, the first town we stopped at was Coimbra, the ancient university city; in fact one of the oldest university cities in Europe. It is situated on the bank of the river Mondego and rises from it rather like an amphitheatre The University itself is at the top of the hill, and the most magnificent part is the old quadrangle. There is much in this University to remind one of one's own days at Cambridge—the entrance gateway with its notices all rather at random on their various boards—and inside the spaciousness of the courtyard with its plain whitewashed buildings with their magnificent stone Manueline doorways. Even the gowns of the students have great similarity, being made out of black material with their large "sleeves," but there they seem to have a certain amount of usefulness as they are made of wool and serve as a cloak, especially necessary with the cold winds which prevail. One side of the courtyard is being rebuilt, but at the moment the view over the town and river below is glorious.

Outside the main quadrangle there is great rebuilding activity of the faculty of letters and library, and again one is reminded of Cambridge with the desire to blend modern architecture to the old. This contrast is strengthened by the cathedral which faces the new building work, with its magnificent façade in the seventeenth-century Romanesque style. Nearby is a thirteenth-century cloister. In this tremendous effort the Portuguese are not afraid to pull down some of the congested old houses.

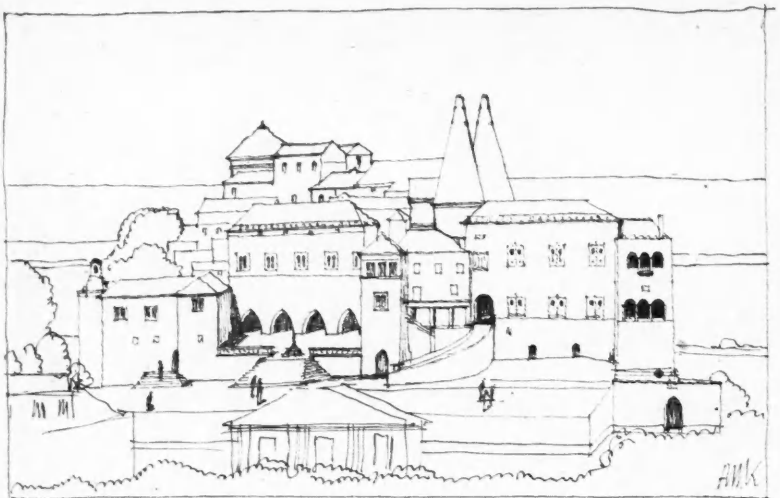
One of the more homely touches was to see dozens of workman busily employed on the mosaic pavement—in black and white granite, busily hammering home their small pieces to make a strong, beautiful and long wearing pavement. It was here too that we saw one of the few steam-rollers encountered throughout the whole of Spain and Portugal, and felt that it could well be multiplied and let loose in the many places where roads are not too good!

Perhaps as fascinating almost as the old university buildings is the new "Portugal dos Pequeninos," the children's Portugal. It is a novel type of children's playground with reproductions in miniature, not only of typical Portuguese buildings, but also of many of the historic buildings of the country; the miniature "University," for example, compares most impressively with the real building. These buildings are complete in detail and can be entered (with some difficulty it is true by adults—but then why should adults wander in a children's preserve?). In this playground is a small nursery school, with its little desks and dining tables where local children are educated.

And so our journey south through Portugal began. Our first impression of the country was that of fertility and of a hard-working smiling peasant population. The work seems to be done mainly by women and everything is carried on their heads: baskets, jars of water, boxes of fish and the laundry. The bundle is usually topped by a black umbrella, useful as a sunshade or as an umbrella; men carry only the umbrella! We became slightly mixed up with a pilgrimage to the shrine of Fatima, which is an annual event, and found whole families walking to it. They must have travelled for miles, all on foot and mostly barefooted; the men in front with a trilby hat and the inevitable



The Monastery of Batalha, with its wealth of carved stonework.



umbrella, and the women behind with huge bundles on their heads.

All the way at the side of the road were banks of flowers; marigolds and a purple or white flower which grew on sandy soil and helped to stabilise this. Every so often there were places to park the car; invariably with a fountain of water and with benches as a rest by the wayside.

The first of our surprises was the Monastery of Batalha, which must surely be one of the wonders of the world. The Monastery of St. Mary of the Victory was built by King John I between 1388 and 1433. It is magnificent not only in its size, but in the whole conception and general unity of design, with the wealth of carving to the cloisters and in the Manueline doorway with the figures in their rows surrounding the entrance. Inside it is tremendous in its simpleness with the huge high nave. In the cloisters is a beautiful fountain and the tinkle of water in the coolness of the cloister contrasts wonderfully with the glare of the bright blue sky beyond. But perhaps the most impressive part is the "Unfinished Chapels." The chapels form an octagon giving on to an uncovered rotunda, and one cannot help thinking that having got so far the architects felt they could not design a roof to cover such beauty and so deliberately left the Chapels open to the sky.

Reluctantly we went on further south, only to find an equally magnificent Monastery at Alcobaca some few miles away. This Monastery was built in the twelfth century by the Cistercian Monks, who at that time were the leaders of the cultural civilisation of the country and founded much of its agricultural wealth. The story of its foundation is brilliantly told in a series of glazed tile pictures (azulejos), including the gift of land to the monks by the King, and the surreptitious moving of the marking pegs to a better site in the night "by angels."

Of a simpler style than Batalha, Alcobaca gains by its severity and its magnificent proportions. The Hall of Tombs contains some wonderful carved tombs, especially the mausoleums of King Peter the Great and Dona Ines de Castro, both carved out of a single piece of marble, with their delicately chiselled draperies and dramatic expressions on the faces.

And so from the magnificent to the homely, the walled town of Obidos. This is a town typical of much of Portugal with its colour-washed houses (mainly in white, but often in blues, reds, yellows and greens, with contrasting corners) and its narrow streets and round it all the twelfth century ramparts. At the end of the town in the ancient palace, is the Pousada de Castelo.

We spent one night at the fishing village of Ericeira—now one of the favourite beaches of the province of Estremadura—but still unspoilt. With the sea breaking against its cliffs and in the subterranean passages and with its wonderful views along the coast, this is indeed a paradise, and certainly our hotel left nothing to be desired in the way of good food, good service, and that attention to one's well-being which is so welcome.

There is one other place we feel we must mention and that is Bussaco. If one wishes to feel like a millionaire for a day, go to the Castle Hotel at Bussaco; if you can afford to stay there do so—we could only manage tea. This place was built in 1897 in stone, in imitation Portuguese Gothic, quite indescribable. Everything has gone into it that could be thought of, and the result is what it is. The gardens and surrounding woodland are magnificent, there were gardeners everywhere. It was not busy so we were shown round and were asked to recommend it to our English friends, and we hope we are not failing to do so.

When one takes sleeping apartments, beside a bedroom one gets sitting-room, a dressing-room, a bathroom with marble walls and doors, wardrobes, mirrors, easy chairs, etc., concealed light, chandeliers, and exotic flowers. We asked to see the bridal suite, but we had better leave this description to some newly weds. It was nice to feel like a millionaire, if only for tea!

From here we went on to Lisbon and its immediate neighbourhood. Lisbon is a friendly town—of wide avenues and magnificent squares, but without the grandeur of Paris—with its seven hills dominating the Tagus—and over all that wonderful blue sky. It perhaps lacks what many other capitals contain in the way of great museums and art galleries, but it makes up for these in its general setting.

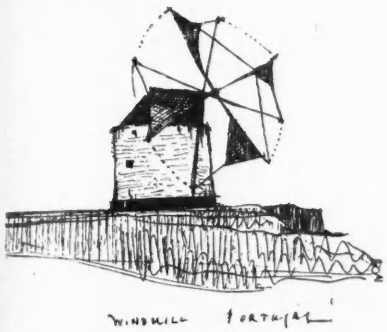
One cannot fail to explore the Castle of St. George with its beautiful white peacocks, so eager to display their beauty, or marvel at the magnificence of "Black Horse" square. The Museum of Royal Coaches, which is unique in the world, is one of the wonders of the town, with its coaches of all ages, in a wonderful state of repair, and telling one so much of the history of their times. Near to the Museum is the Monastery of the Jeronimites, built in 1496 by King Manuel I in a magnificent and sumptuous style worthy of a nation which was at that time one of the richest in the world due to the skill of its navigators of whom Vasco Da Gama is perhaps the best known.

The Opera House is rather difficult to locate, and after struggling for some time we discovered a person who spoke English a little, and asked him the way. He shook his head as much as to say 'you will never find it so come with me.' He turned out to be a barrister of a very forceful character, but delightful and kind, and he spent most of the afternoon with us. After embracing and kissing a judge on both cheeks in the street, and being shown over three antique shops and one artists' restaurant, we arrived at the Opera House. It was closed for the season, but nothing daunted he managed to get in by a side door, found the Director who welcomed us, and had us shown over every part of the building. It is one of those rare jewels of which there are so few in the world. It will never date because it has fitness of purpose and charm; I suppose one would call it Regency, built 100 years ago. It is small, human in scale and beautiful in decoration. It is planned in the traditional manner with tiers of boxes; the President's box is really royal and occupies the central position at the rear of the auditorium. The stage is magnificent. The ante rooms and foyers are spacious, simple and dignified. No photographs exist, perhaps they could not catch the homely charm of such a building. It was worth spending an afternoon with our guide and friend the Advocate.

But what of the country for a holiday. First, the roads and general motoring conditions are good, petrol is expensive

LISBON: From the Museum of Royal Coaches.

(about 6s. per gallon) but garages and pumps are frequent (unlike their neighbours, Spain), and their mechanics are excellent, and will always help one on one's way. Owning an English car is not quite the same problem for spares in Portugal as it is in other parts of Europe, for here one sees all the English cars one cannot buy at home. Practically every car, except the largest which are American, is English, and one is at first a little surprised to find so many, and of course all driving on the right! Hotels are good and extremely clean, and the food is excellent. Prices are not cheap, but on the whole most reasonable (our hotel bill in Lisbon, including all meals, drinks and tips was only £1 8s. 0d. per person per day). In some districts where there are no hotels, the Government have built hostels or Pousada which I believe are excellent, though unfortunately we did not stay at one. The wines of Portugal are excellent and inexpensive, and they have a wide variety of liqueurs.

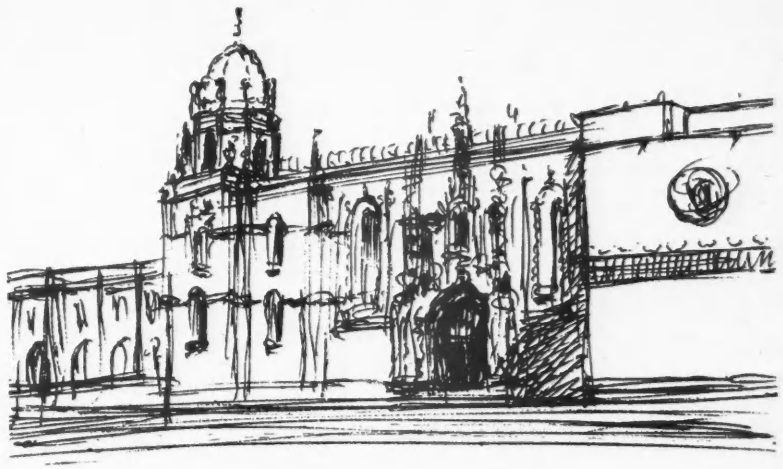


There is no need to worry about not speaking the language, though obviously it is better if one can, but in general French is more often spoken than English, and we were usually mistaken for French, as English tourists are somewhat rare.

The wonderful colours which exist both in the natural scenery and in the towns are a thrill to behold; over all is a blue sky, that deep Mediterranean blue—and throughout the countryside are flowers and trees of a profusion of colour. The villages are practically all colour-washed. Natural brick does not exist and stone is rarely found except in carved doorways. The colours again are wonderful, from deep greens, blues, ochres to the paler colours of pinks often with contrasting corners, and all freshly done. My only regret is that the Editor cannot print my colour photographs. To the north of Lisbon the country is liberally covered with water-pumping windmills, curious little towers on the top of every little hill with cloth sails, which make a peculiar buzzing noise as they go round, and the farmer knows just how to adjust the sails by the sound.

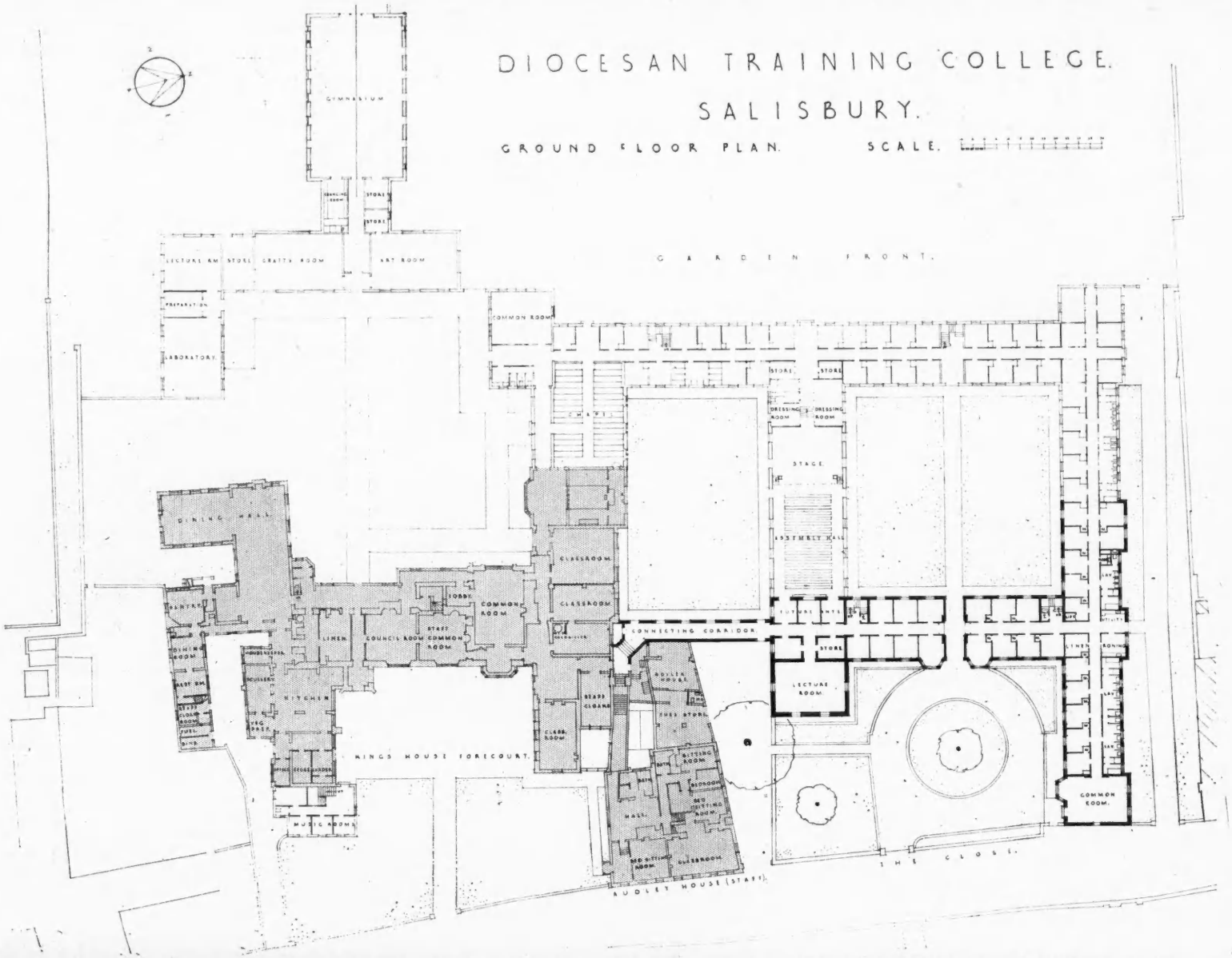
In the towns one notices the general tidiness and cleanliness and the sense of discipline of the people, perhaps most shown by their traffic sense in towns such as Lisbon where pedestrians obey traffic policemen exactly in the same way as a motorist, and at the busiest crossings even they keep to the right.

It is with regret that we left Lisbon on the last stage of our journey through Portugal, across the Tagus to the Setubal Peninsula, and so through and into Spain, but as far as we were concerned the thoughts of Toledo, Madrid and El Escorial gave us a pleasing thrill of joys to come, to soften the sorrow at having to leave such a wonderful country as Portugal.

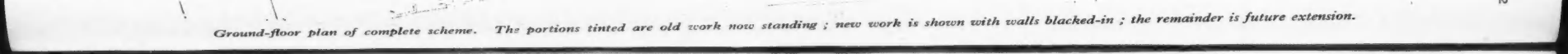


Jeronimos Monastery, Lisbon.

GUARDA: The village church, which is typical of such buildings throughout Portugal.



Ground-floor plan of complete scheme. The portions tinted are old work now standing ; new work is shown with walls blacked-in ; the remainder is future extension.



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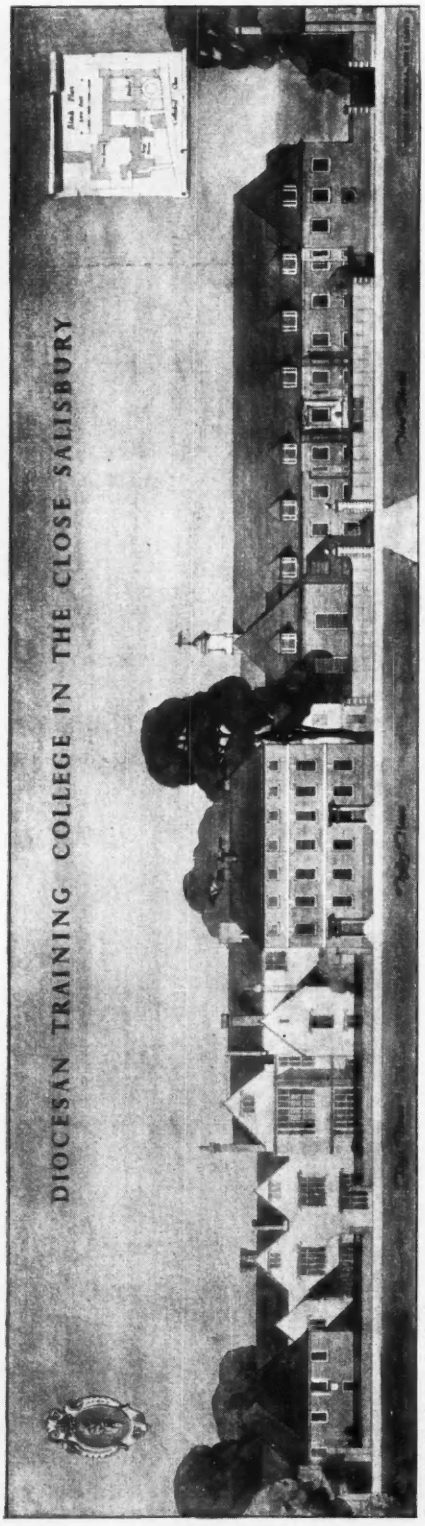
Ground-floor plan of complete scheme. The portions tinted are old work now standing ; new work is shown with walls blacked-in ; the remainder is future

Photographs by Sydney Newbery, FIBP, FRPS

View of new portion, from the Close.

DIOCESAN TRAINING COLLEGE IN THE CLOSE, SALISBURY. *W. CURTIS GREEN, RA, SON & LLOYD, ARCHITECTS*



General view of scheme from the Close.

Drawn by W. Antony S. Lloyd

THE buildings illustrated in these pages represent the first instalment of a larger scheme which eventually will provide approximately 210 study-bedrooms, a new assembly hall, gymnasium and classrooms, in addition to the accommodation already existing in King's House and Audley House adjoining. Antony Trollope, it may be mentioned, lived and worked in the latter.

The Training College has for many years occupied both the houses referred to, as well as the old Deanery. This building, which is eventually to be taken down when the third instalment is complete, is a fine old house standing well back from the road, opposite the west end of the Cathedral. Unfortunately, it was ruined internally during the last century, is extremely inconvenient and a large proportion of the ground floor, well below road level, is subject to flooding. After much heart-searching it was finally decided that conversion was uneconomical and undesirable. It is in a bad state of repair.

The building now illustrated stands in front of the old Deanery, but is still set back some way from the road. The old garden wall and fine old eighteenth-century gate piers have been retained. The first instalment, now built, provides 55 bedrooms, common room, a large class room, and its complement of bathrooms, lavatories, linen rooms, etc. Luggage, housed in the roof, is taken up by the lift. The eaves have been kept as low as possible in order to keep down the scale and achieve a sky line that composes with the rest of the Close.

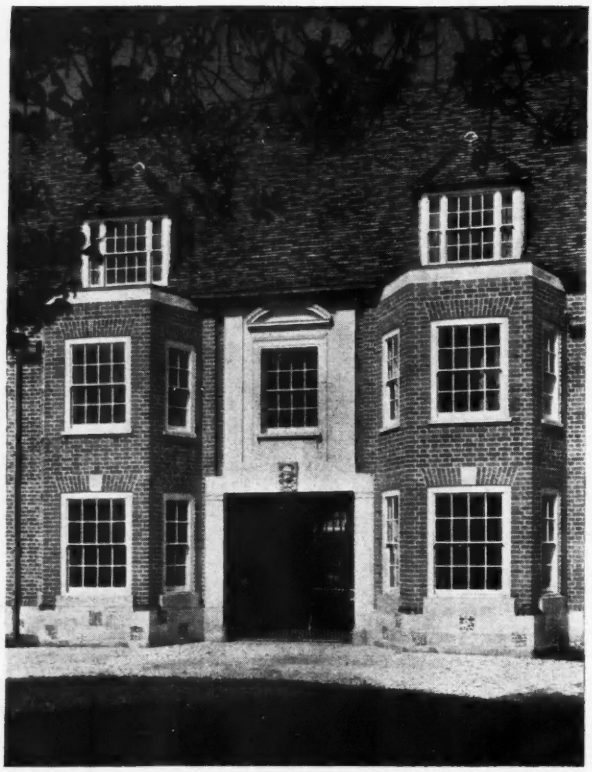
Salisbury Close is unique in character. The new buildings have been designed to keep the old flavour while avoiding pedantry of detail. The walls are of Daneshill brick pointed in lime, with Cotswold Dale stone dressings, and a stone and flint plinth, partly composed of old materials. The tiles are from Tilehurst, near Reading, mixed with old peg tiles found in the neighbourhood, and laid by A. H. Herbert and Co., Ltd.; these match satisfactorily other roofs in the Close. The windows are in wood. The first floor is a

pot floor by the Kleine Co., Ltd. All floors are covered with linoleum supplied and laid by C. M. Bennett. The two staircases are precast concrete, with hand rails of eighteenth-century wrought iron adapted from an old building in New Burlington-street, London. Stone carving was executed by Mr. Laurence A. Turner.

In conjunction with the new buildings, opportunity was taken to reheat the entire group with a plant designed to be capable of expansion for the final load. The kitchen and sick wing in King's House have been reorganised. The next instalment is intended to contain new class rooms and a gymnasium behind King's House, and the reorganisation of the chapel. The third instalment, which involves the destruction of the old Deanery, comprises the remainder

The west-central entrance in the quadrangle.

General view of new block, from the Close.



of the study-bedrooms and the new assembly hall.

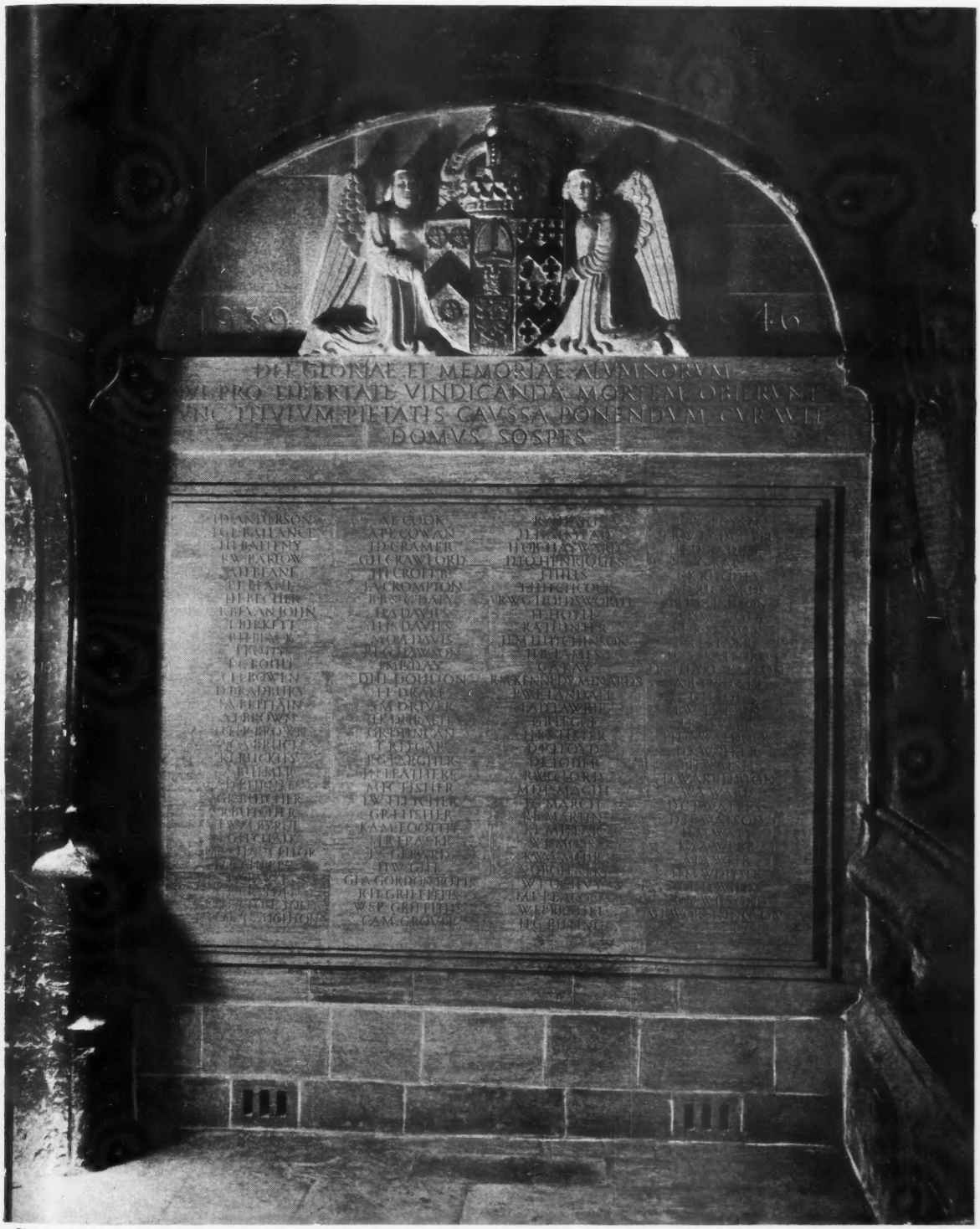
The scheme had to be designed so that access to all these portions was possible and service maintained for the completed portions.

The quantity surveyors were Messrs. Deacon, Son and Knight, of London, and the general contractors, Messrs. C. Syms and Co., of Calne. The clerk of works was Mr. K. C. Barnes.

Sub-contractors and suppliers were: Heating and hot water, Carter and Sons, Salisbury; electric wiring, Aish and Co.; stone work, Cotswold Dale, Tetbury; facing bricks, Daneshill Brick Co.; tiles laid by A. H. Herbert and Co.; ironwork, Kingsmill Metal Co., and Hurst Franklin; luggage lift, Marryat and Scott; flush doors, Merchant Trading Company, Ltd.; ironmongery, Ramsay and Co.; and wall tiling, Carter and Co., London, Ltd.

The entrance to the new block from the Close.

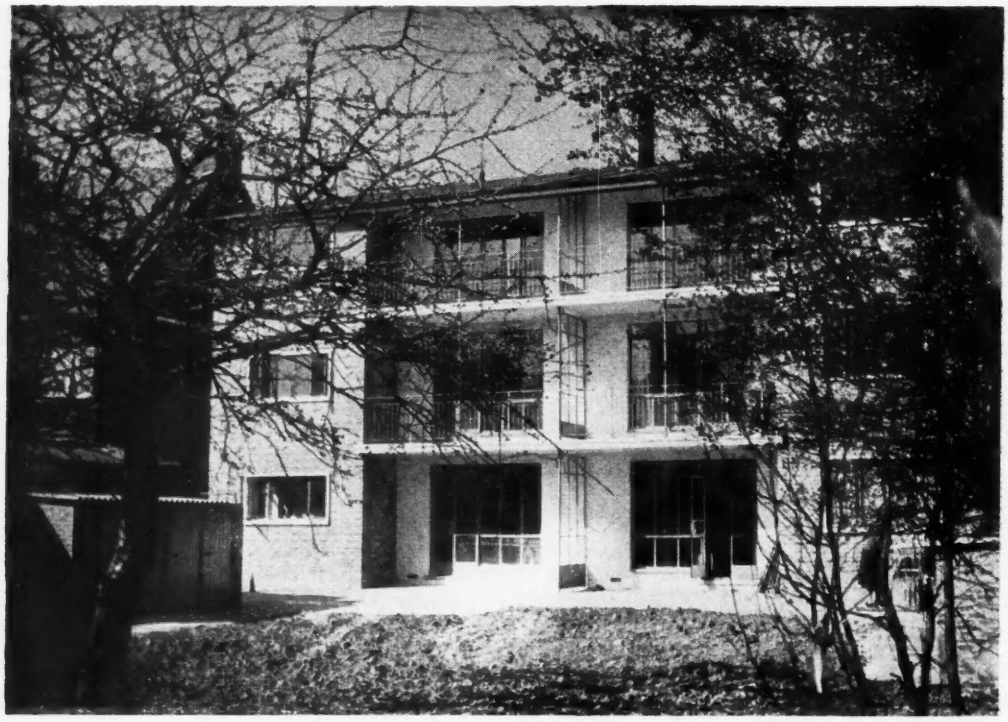
DIOCESAN TRAINING COLLEGE, SALISBURY: View of new block, looking south-west.



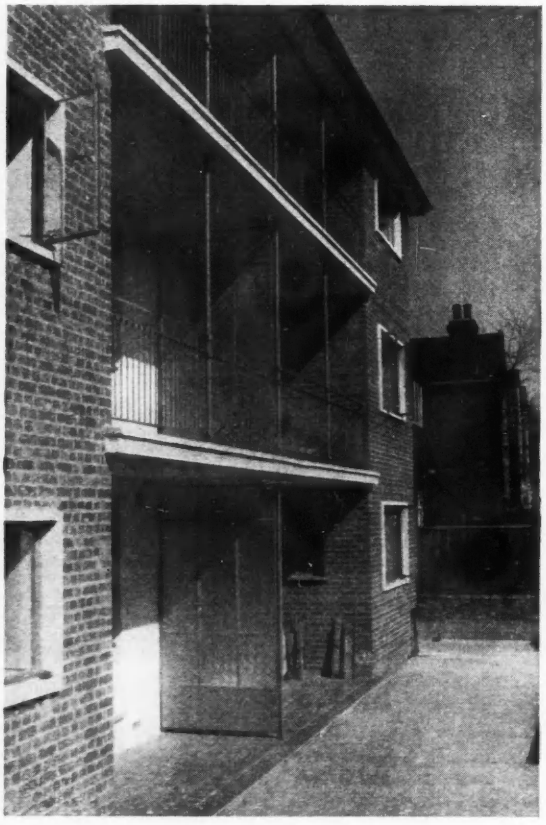
Photograph by Thomas-Photos

WAR MEMORIAL, BRASENOSE COLLEGE, OXFORD

This war memorial has been carried out in Clipsham stone by Mr. Barry Hart, who was responsible for the carving and lettering, under the direction of the architect, Mr. Edward Maufe, R.A. The title lettering is round in section, and gilded, while the names are V-section. The Clipsham stone was supplied by the Rutland Masonry Company, the builders being Messrs. Knowles and Son (Oxford), Ltd. The memorial was dedicated on December 20 last by the Bishop of Lincoln.



The garden front. Below: Detail view of balconies.



FLATS AT WILLESDEN

ARTHUR M. FOYLE, BA(Arch.), ARIBA, AMTPI, ARCHITECT

THIS building consists of six self-contained flats replacing two large three-storey semi-detached houses destroyed during the war. Detailed planning was controlled by the necessity for keeping as far as possible to the previously existing foundations, it being stipulated that one of the ground-floor flats should have a separate entrance. External fuel stores occupy exactly the site of previously existing outbuildings.

Structure.—External walls are of 13½ in. solid and 11-in. cavity

brickwork. Foundations are normal, but taken down about 5 ft. due to much of the site being of made-up ground. Floors, staircases, balconies and flat roof over front addition are of reinforced concrete. The main roof is of timber construction.

External Finishes. — Surrey multi-red facing bricks have been used, flush pointed. Window surrounds are of precast concrete. Balconies are finished with granolithic taken over externally to form a drip. The roof is boarded and covered with copper, the flat roof at front being covered with asphalt.

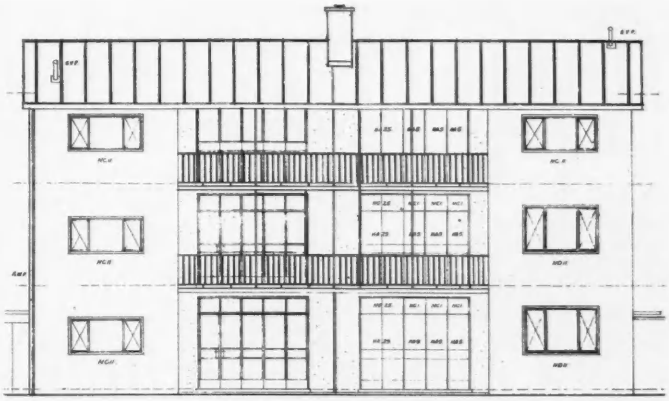
Internal Finishes. — Boarded floors of the floating type are used, laid on fibreglass quilt as sound insulation. Floors to kitchens and bathrooms are quarry tiles. Walls to bathrooms are tiled to dado height. Doors to rooms and to cupboards are flush throughout. Standard metal windows and external doors are used.

Services and Equipment. — There is a conventional two-pipe plumbing system with all internal pipes cased in ducts. Hot water is provided by electric immersion heaters. There are coal fires in three flats only, heating elsewhere being by electric panel fires. There are panel fires to all bedrooms. Standard E.J.M.A. fitments have been incorporated in all kitchens, with built-in refrigerators.

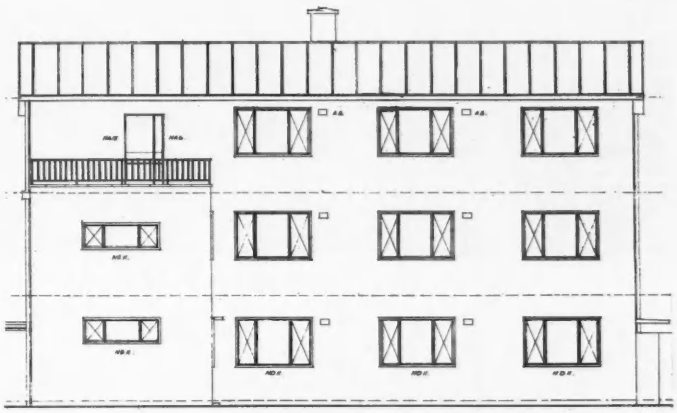
The builders were Messrs. Dennis Price, Ltd., of Willesden Green, N.W.2. Sub-contractors were :

Copper roofing, Builders' Iron and Zincwork, Ltd. ; sanitary goods, David Neale, Ltd. ; fireplaces, ironmongery and electric fires, O'Brien Thomas, Ltd. ; floor reinforcement, The Rom River Co., Ltd. ; E.J.M.A. fittings, Jayanbee Joinery Ltd. ; floor soundproofing, Fibreglass, Ltd. ; wall and floor tiling, S. A. Forbes and Son ; electrical work, H. Lewis ; plastering, A. Cook ; Metal windows, Williams and Williams, Ltd. ; ironwork, Mott and Partners ; asphalt, Bennett Asphalte Co. ; glazing, James Hetley and Co., Ltd. ; gas, North Thames Gas Board ; refrigerators, Electrolux, Ltd. ; paint, E. Wood, Ltd. ; distemper, A. T. Morse, Sons and Co., Ltd. ; and garden work, Richard Davies and Company.

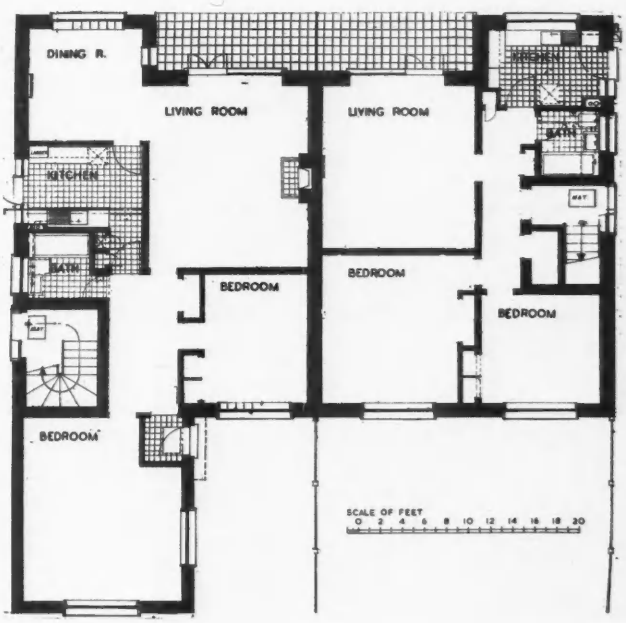
FLATS AT WILLESDEN

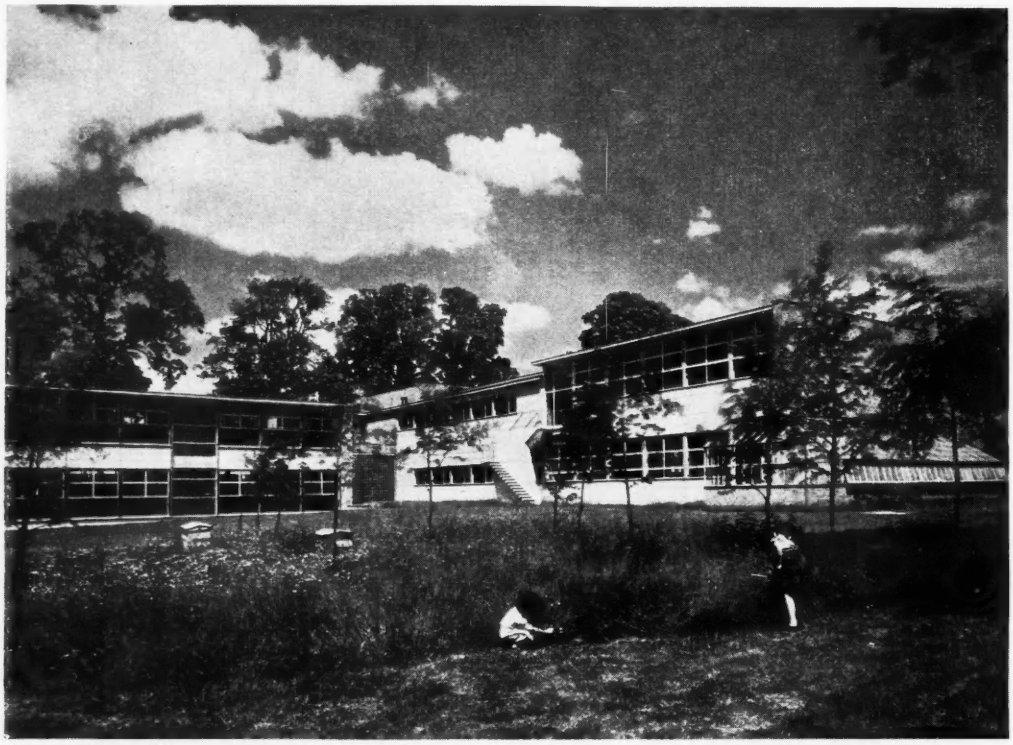


Rear elevation.



Centre: Front elevation. Below: Ground-floor plan.

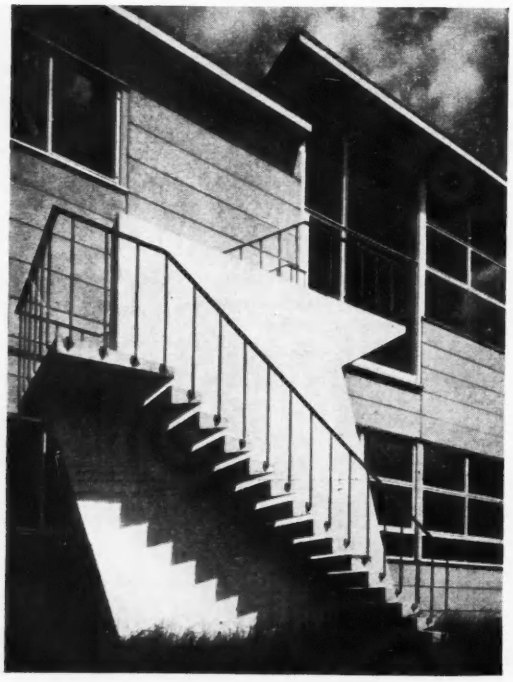




Photographs by Peter Pitt

Science wing and part of classroom block.

Barclay Senior Modern Secondary School, Stevenage



F. R. S. YORKE, E. ROSENBERG & C.S. MARDALL, FF/ARIBA, ARCHITECTS

T. R. EVANS, ARIBA, ASSISTANT-IN-CHARGE

Detail of external fire escape staircase, constructed of in situ reinforced concrete.

THIS school for 450 boys and girls from 11 to 16, now completed, serves a wide district of existing villages and part of the present town of Stevenage ; and also acts as an adult centre to serve social needs and evening classes for the same area. The practical rooms and assembly hall, with stage, are therefore planned with adequate stores and slightly greater areas than usual.

The main entrance to the school is at the west end of the two-storey classroom block, that is, towards the town end of the site. The assembly hall and cloakrooms, the dining-room, the administration, the adult centre and the classroom blocks all lead directly from this foyer on ground and first floor. A feature of the ground-floor foyer is a mural by Kenneth Rowntree. The metal and woodwork shops are beyond the assembly hall to isolate the noise from them, and the kitchens are beyond the dining-room, served by a separate access road. The domestic science and laboratory wings are at the other end of the classroom block, leading from the east entrance, and the gymnasium is to the north to give a slight sense of enclosure and windbreak for the playground.

The classroom block is designed in two storeys, with bridges to first-floor classrooms from first-floor corridor to enable all classrooms to have cross light and ventilation.

Load-bearing structure : This is a two-storey structural steel frame based on 8 ft. 3 in. grid in both directions on plan, and a 1 ft. 4 in. grid vertically. External columns are broad-flange 6 in. by 6 in. by 25 lb. R.S.S. for full height where the free standing length does not exceed 15 ft., and 6 in. by 8 in. R.S.S for assembly hall and gymnasium. Circular solid steel columns are placed internally in the main entrances.

Lattice beams are used on first and second floor where the superimposed load does not exceed 60 lb. per sq. ft. ; solid R.S.J.s are used wherever this loading increases. The lattice girders consist of a steel flat or channel section at top, and a flat at bottom joined by circular rods from $\frac{3}{8}$ in. to 1 in. dia. at various intervals, spaced to accord with the span and load carried. These beams are generally exposed on the underside of the roof and covered by a false ceiling as additional fire protection to first floor.

Concrete : Foundations to stanchions 1 : 3 : 6 (mass concrete). Ground floors are 5 in. thick in 1 : 2 : 4 mix, laid on hardcore ; the $\frac{3}{4}$ in. aggregate is reinforced with high tensile fabric, type 209 (B.S. 1221).

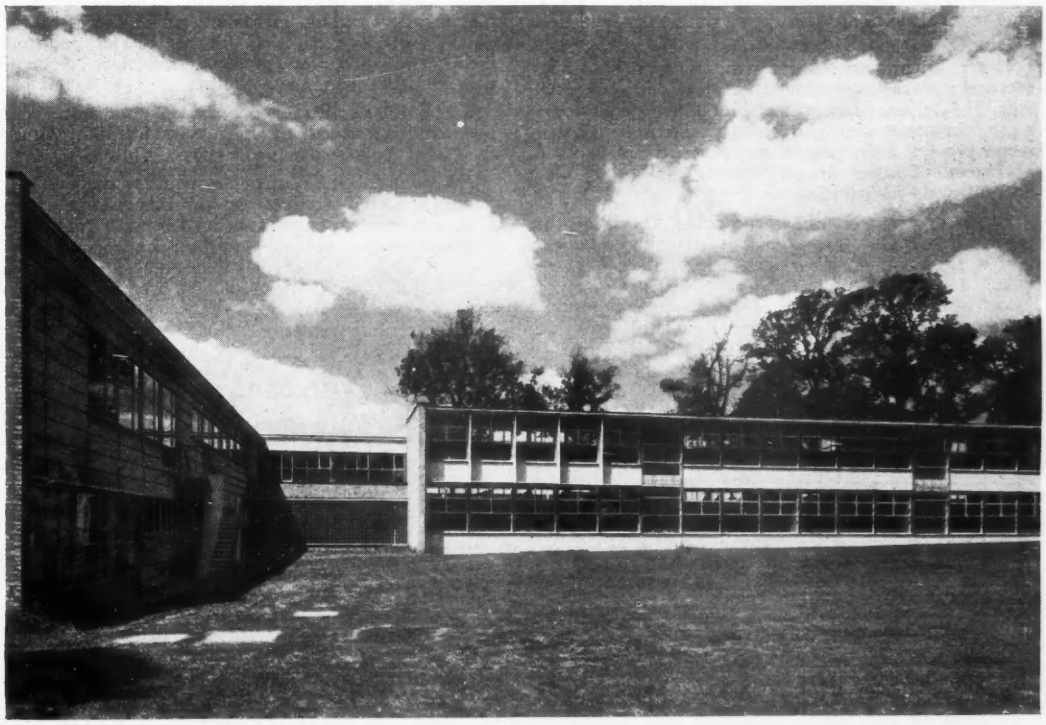
First-floor precast units : Truscon slabs to carry 60 lb. per sq. ft. superimposed except in stores, where the load is 100 lb. per sq. ft.

Roof : Precast units consisting of a 1 : 2 : 4 mix with $\frac{3}{8}$ in. nominal aggregate in addition to foamed slag aggregate, reinforced and weighing 17 lb. per sq. ft. Nailing strips are cast into the ribs on the underside, for fixing ceiling board.

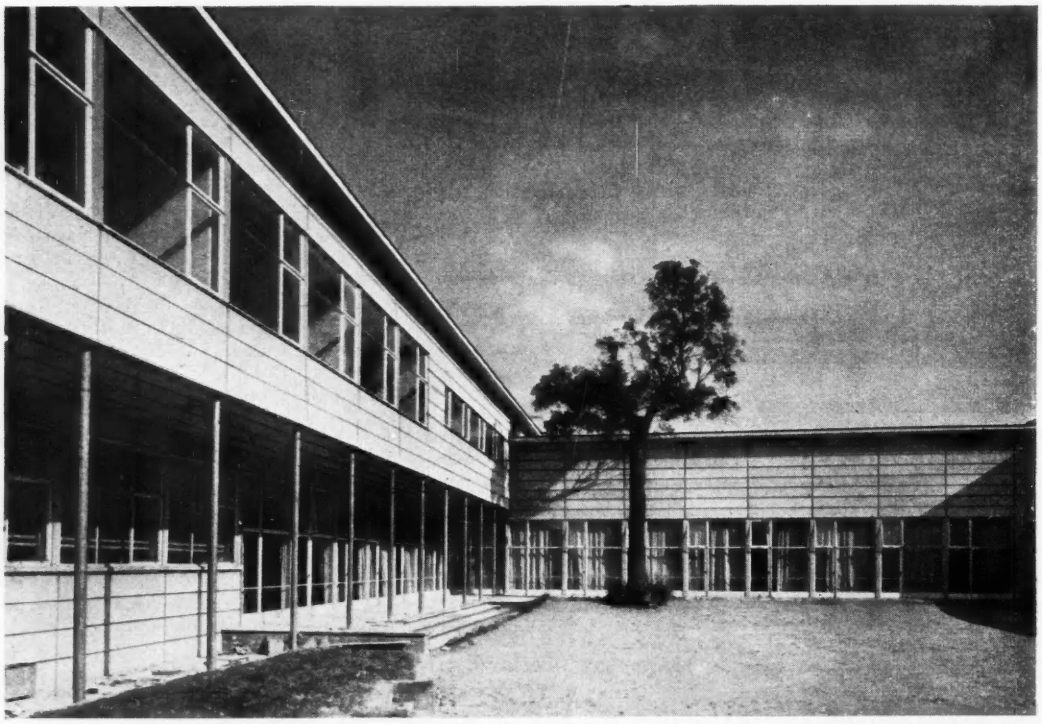
Brick walls : The gable brick walls are free standing on independent foundations ; allowance is made for the structure to expand.

Reinforced concrete staircases : Treads, splayed, from $1\frac{1}{2}$ in. to $2\frac{1}{2}$ in. thick, are cantilevered from the central longitudinal beam and covered with 1 in. terrazzo finish. The risers are left open.

Non-load-bearing structure : The 8 ft. 3 in. by 1 ft. 4 in. concrete external facing slabs have a special spar finish and are held back onto the stanchions with clips. A felt d.p.c. is ironed on to the face of the stanchion and a layer of mastic applied before slabs are offered up ; this fills the vertical joints between slabs sufficiently and no further pointing is used. The external walls are lined with 3-in. breeze blocks,



Administrative block and parts of classroom block. Materials used are precast facing slabs, glass bricks and stock bricks.



View of dining-room and assembly hall from outdoor stage. The facing slabs are precast concrete with spar finish. The terrace paving and steps are of Hornton stone.

leaving a 6-in. cavity. Internal partitions are of breeze, woodwool or hollow pot. Flint lime bricks and stock bricks are also used internally and left exposed.

Other fitments are : Metal windows with Universal sections ; precast concrete and aluminium external cills. Metal door frames to B.S. Flush panel doors to B.S. for painting or with honeycomb core and hardwood ply finish for polishing. Metal doors to main entrances. Built-in fittings in mahogany, B.C. pine and softwood for painting.

Electrical services : These include, besides the normal lighting and power circuits, telephones, clocks and a remote control radio system. All cables are copper-sheathed and are laid in the heating pipe ducts or direct in the floor screed. Classroom lighting is by metal reflectors, with opal diffusing bowls and metal angle reflectors for lighting the blackboard.

Heating : Low-temperature copper coils embedded in the floor screed are heated by thermostatically controlled oil-fired boilers. In addition, a higher temperature circuit heats the coat rooms, lavatories, workshops and administrative rooms. A partial air-conditioning system has been installed in the assembly hall, coat rooms and kitchen, foul air being extracted from these sections of the building by electric fans.

External soffit and fascia made of fibrous plaster. Roof covering built up bituminous roofing on insulation board, with granite or marble chip finish. Protected metal angles at junctions, verges and parapets

Rendering or plaster on walls internally, with some walls finished in canvas impregnated with synthetic resin for protection and some finished with glazed tiles. Others have William Morris wallpaper. Cork board for pin-up is also used in fairly large areas.

Ceilings : Suspended, or fibre board nailed direct or woodwool slabs. Some ceilings plastered on expanded metal. Beams are exposed or cased in fibrous plaster where ceiling boards are nailed direct to roof slabs. Assembly hall has fibrous plaster sounding board and a curved plywood reflector. Acoustic tiles are used for sound absorption.

Floors are Hornton stone paving, wood fibre composition blocks, concrete tiles, vitreous tiles, quarry tiles, hardwood strip and cork tiles.

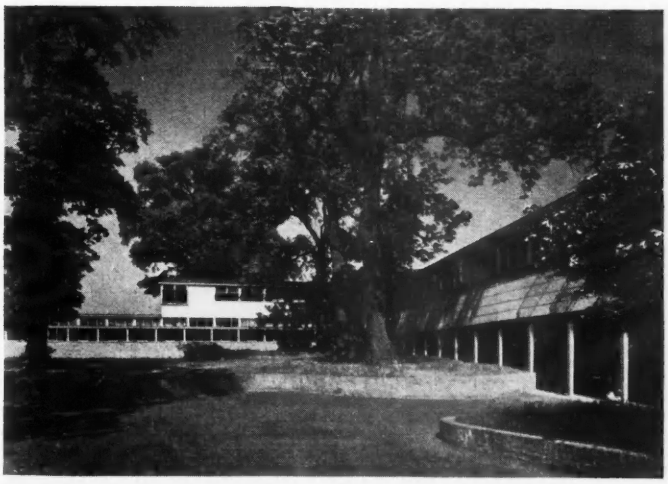
Decoration : One coat of flat paint is used on rendered, plastered, concrete or fibrous plaster surfaces. Colour is used to emphasise the shapes of rooms and spaces, to give good background for the teaching walls, and is considered mainly in relation to the colours of the natural materials throughout the building. Gloss paint is used on woodwork and steelwork. Natural timbers are sealed and cellulosed wherever possible. Glazed tiles are used generally with contrasting colours on adjacent planes. Where William Morris wallpaper is used, it is on one wall only. Wherever possible the natural colours of materials have been used, e.g., timber, stone, brick.

The consultants were as follows : Structural : O. M. Marcel, I.T.N., M.Am.C.I. ; heating : Oscar Faber and Partners ; plumbing : Daniel Longden, M.R.San.I., A.M.I.P. ; and electrical : A. H. Barker and Partners. The general contractors were Messrs. Gilbert-Ash, Ltd., 2, Stanhope-gate, W.1. Subcontractors were :—

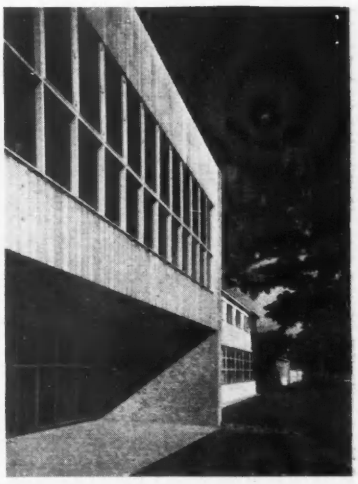
Dampcourses, William Briggs, Ltd. ; reinforced concrete, Square Grip Reinforcement Co. ; floor slabs, Truscon ; bricks, external facings, East Acton stocks ; internal facings, Uxbridge Flint Brick Co., Ltd. ; precast wall units, light constructional steel frame, and roof units, Hills (West Bromwich), Ltd. ; suspended ceilings, Sundeala ; wood roof, Secolith, Uni Seco ; steel partitions, windows and doors, Williams and Williams, Ltd. ; dome-

Main entrance. The bronze sculpture "Family Group" is by Henry Moore, ARA.

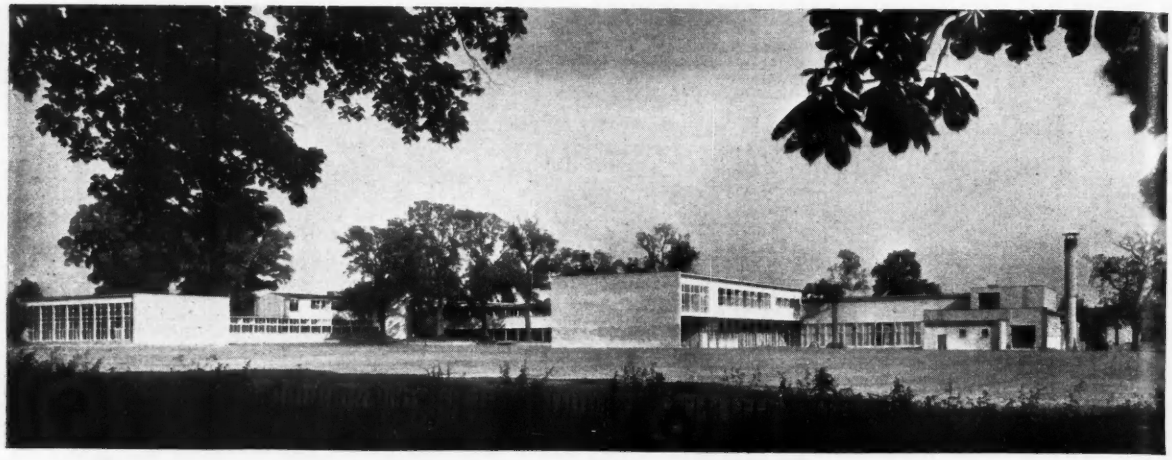
lights, Ide's and Pilkingtons; glass bricks, James Clark and Eaton; roof lights, Lenscrete; oak strip flooring, Hollis Bros.; patent flooring, Granwood; cork tiles, Armstrong's; concrete tiles, Moordon; terrazzo flooring, Mosaic and Terrazzo, Ltd.; electric wiring, Etna Lighting and Heating (using Pyrotenex cables); electric light fixtures, Troughton and Young, Ltd., Benjamin Electric Ltd., F. H. Pride, Ltd., and Hume Atkins; central heating and ventilation equipment, G. N. Haden and Sons, Ltd.; plumbing, R. J. Audrey, Ltd.; sanitary fittings, Stitsons

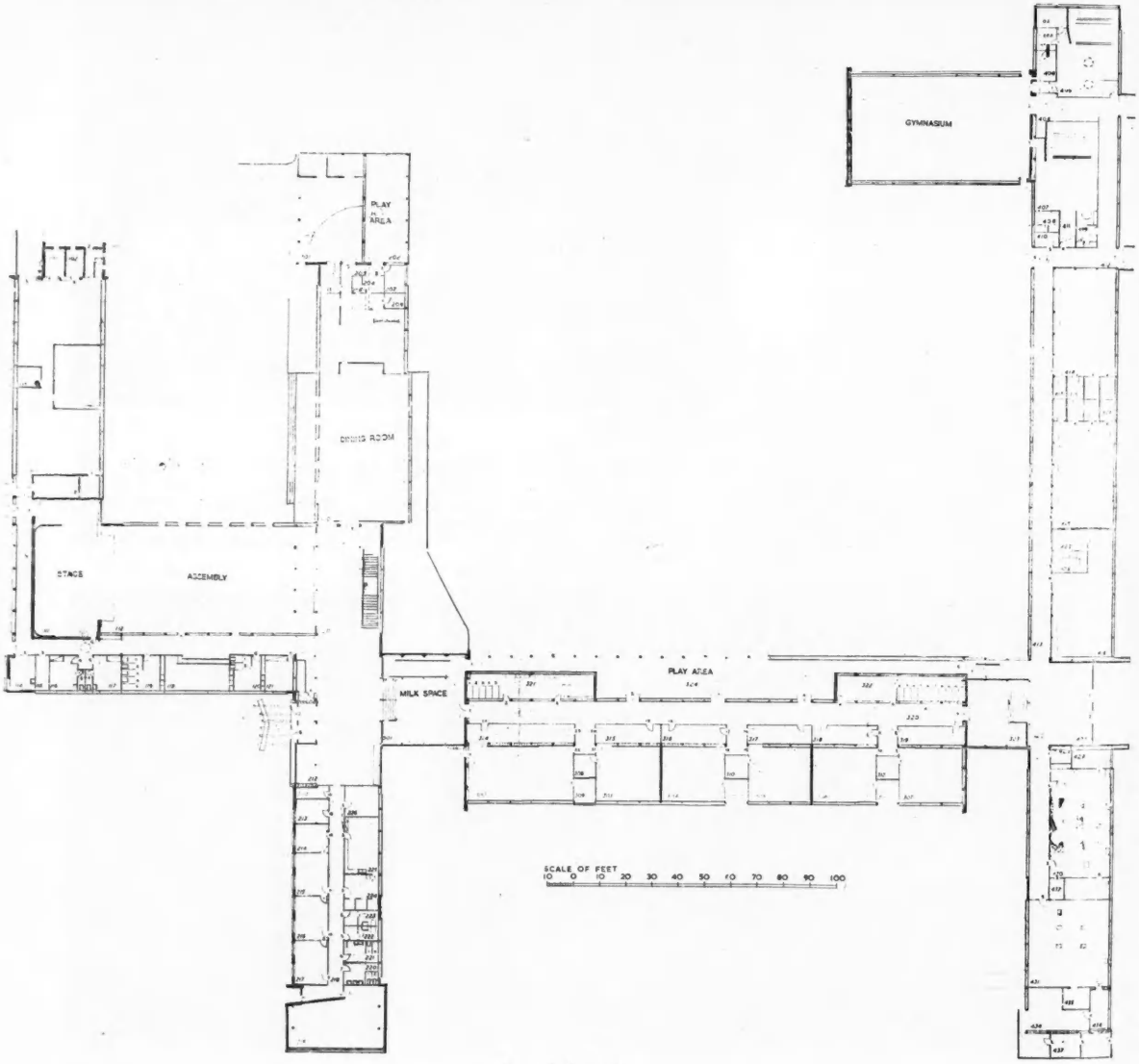


Domestic science flat and covered playground.



Art room over east entrance.

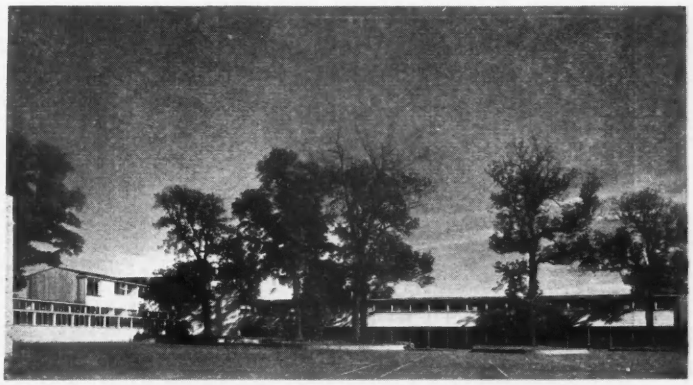


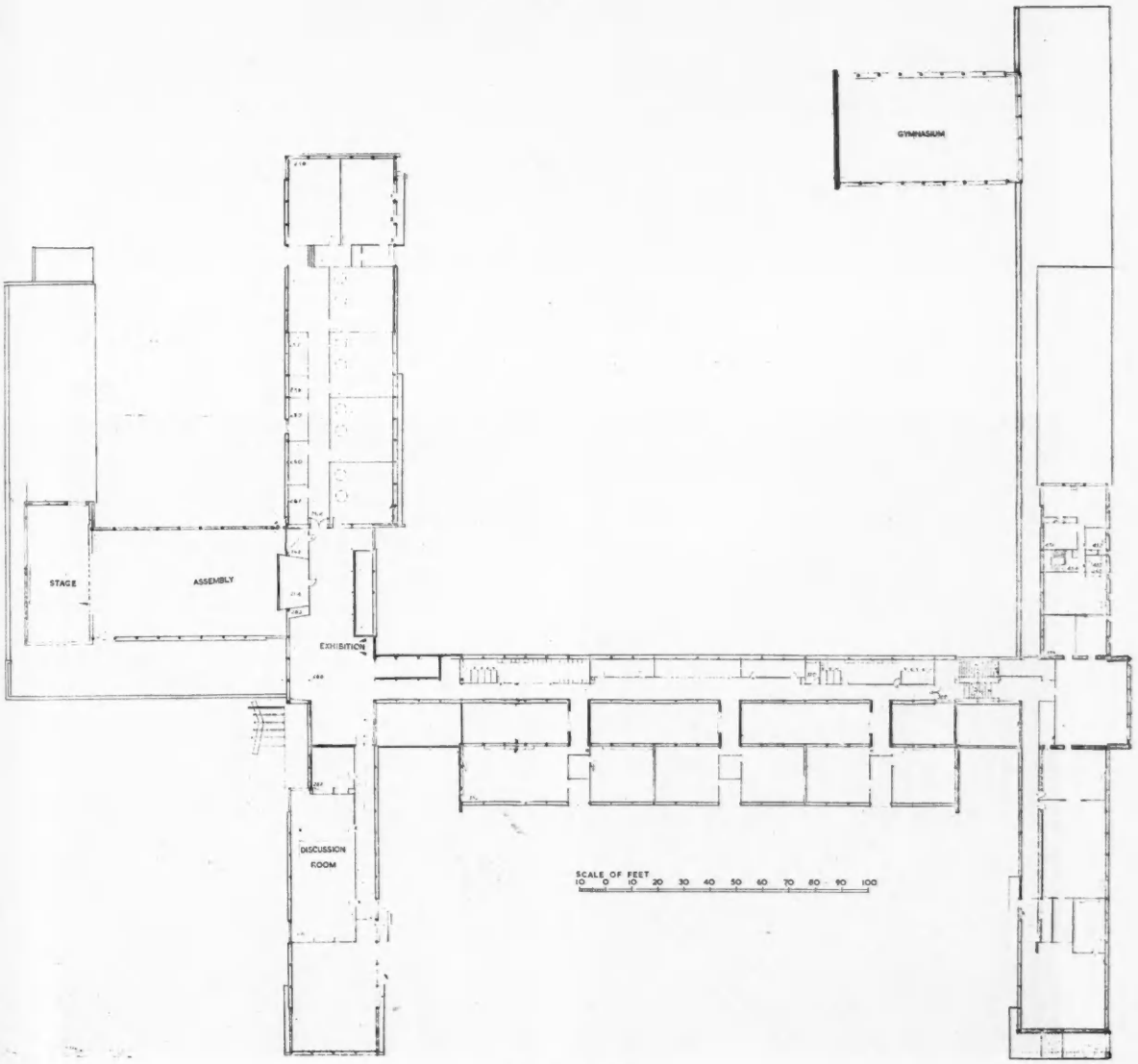


Ground-floor plan.

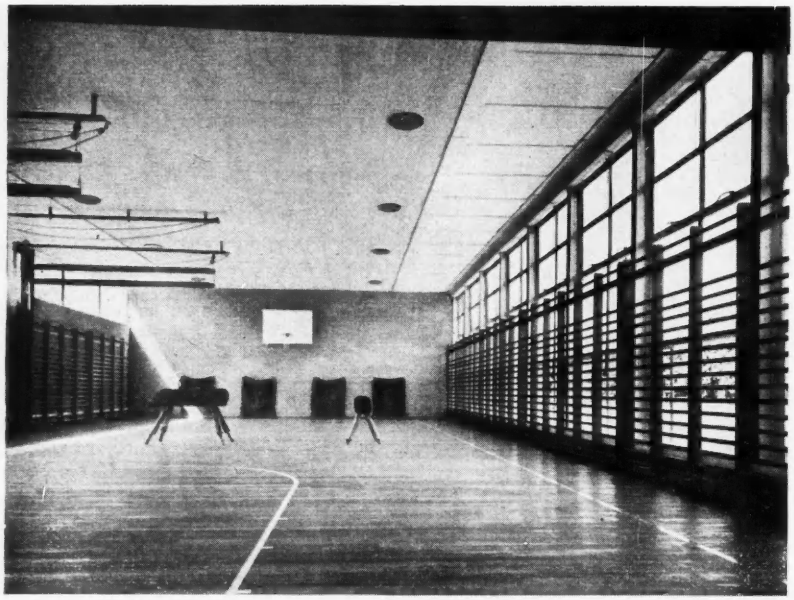
Left : View from north-west. L. to r. : Gym ; domestic science wing with demonstration flat over ; covered playground, coats and lavs. over ; kitchen and dining-room with six classrooms over ; assembly hall ; end of workshop block with boiler house under. Pitched roof is copper-sheeted, and there is a Tyrolean finish on end of workshop block. Flat roofs are 3-layer built-up roofing of felt on fibreboard with granite chip finish.

Right : Domestic science wing and covered playground.



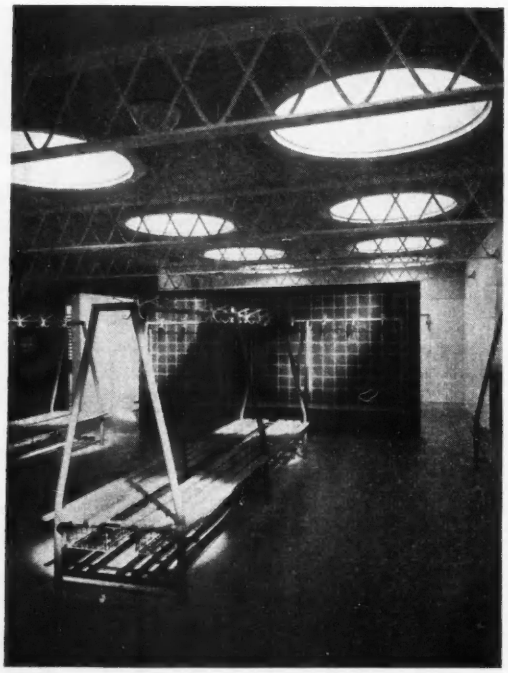


First-floor plan.

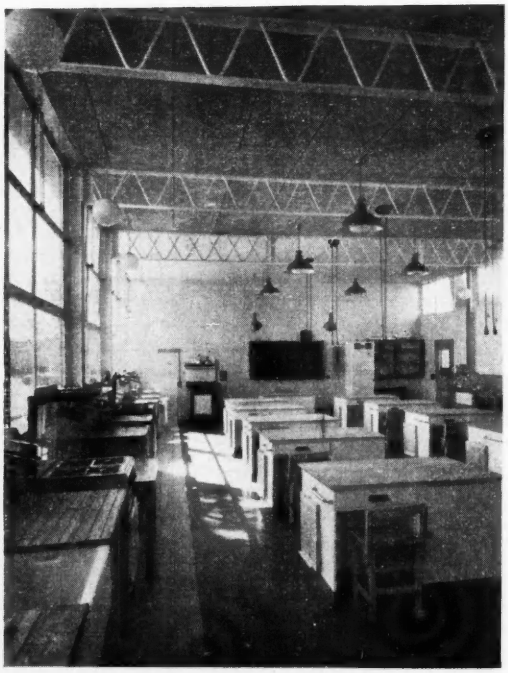


The gymnasium. Kwao strip flooring. Walls of flint-lime bricks. Ceilings of fibre-board with metal heating panels.

Sanitary Fittings, Ltd.; stairtreads, Mosaic and Terrazzo, Ltd.; door fittings and furniture, Rennis, Ltd., Dryad, Ltd., and Gibbons, Ltd.; window gear, Arens Controls, Ltd.; radio, Audix Sound Equipment, Ltd.; hardwood internal doors, Joseph Sandall, Ltd. (Multigon type); roller shutters, W. G. Parker and Co., Ltd.; duct and m.h. covers, Broad and Co., Ltd.; metal handrailing, Clark, Hunt and Co., Ltd.; sunblinds, Avery Blinds and Co., Ltd.; internal and external fibrous plaster, Dejongs; metalwork, Clark, Hunt and Co., Ltd.; joinery, Educational Supply Association, P. H. Barker, Ltd., and John Sadd and Co., Ltd.; acoustic tiles, Horace W. Cullum and Co., Ltd. (Acousti-Celotex); tiling, Carter and Co., London, Ltd.; textiles, Gerald Holtom; wallpapers, A. Sanderson and Sons; wall fabric, Morton Sundour; paint, Screetons, I.C.I., and Thos. Parsons and Sons, Ltd.; furniture, Harris Lebus, Educational Supply Association, and Geo. M. Hammer and Co., Ltd.; tree surgery, Chiltern Tree Surgeons; shrubs and trees, Digswell and Chiltern Tree Surgeons; cloakroom fittings, Clark, Hunt and Co., Ltd.; curtain track, Thos. French and Son, Ltd.; and clocks, Gents of Leicester.



Girls' gym. changing room. Concrete floor tiles. Walls of red, white and grey glazed tiles and fair face flint lime bricks.

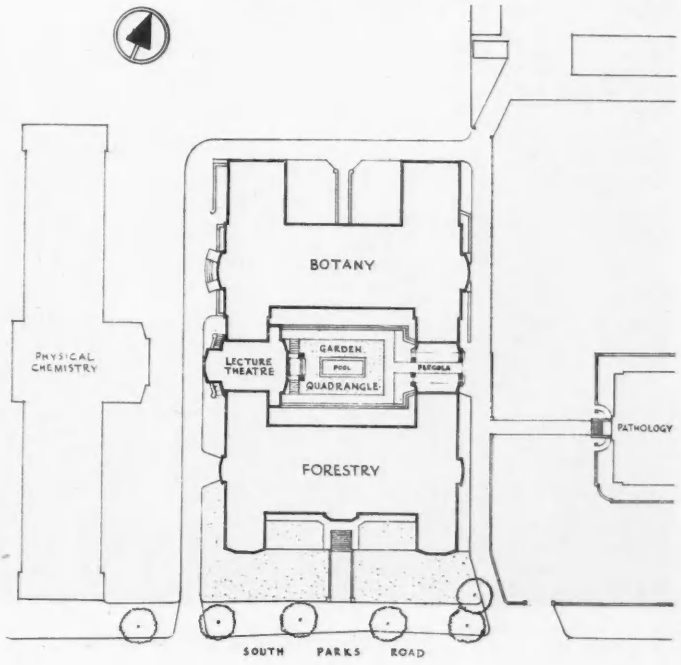


One of the domestic science rooms. The floor is of Granwood blocks with mingled clay tile surround. Ceiling of wood wool slabs.

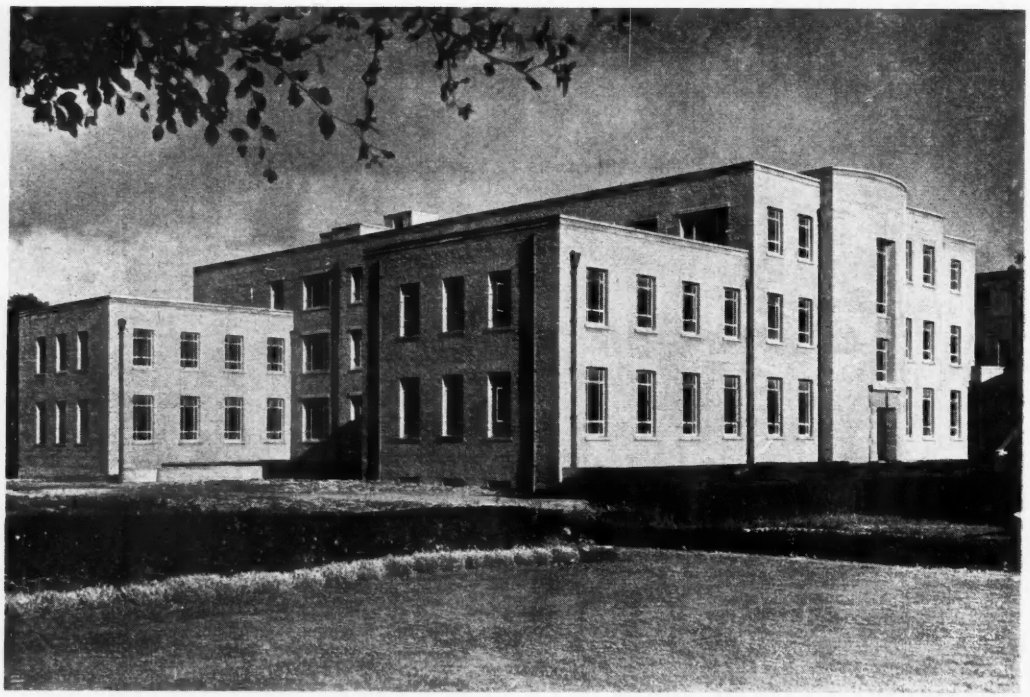
View from the south-east.

THE NEW BUILDING OF THE DEPARTMENT OF BOTANY FOR THE UNIVERSITY OF OXFORD

THOMAS WORTHINGTON AND SONS, ARCHITECTS



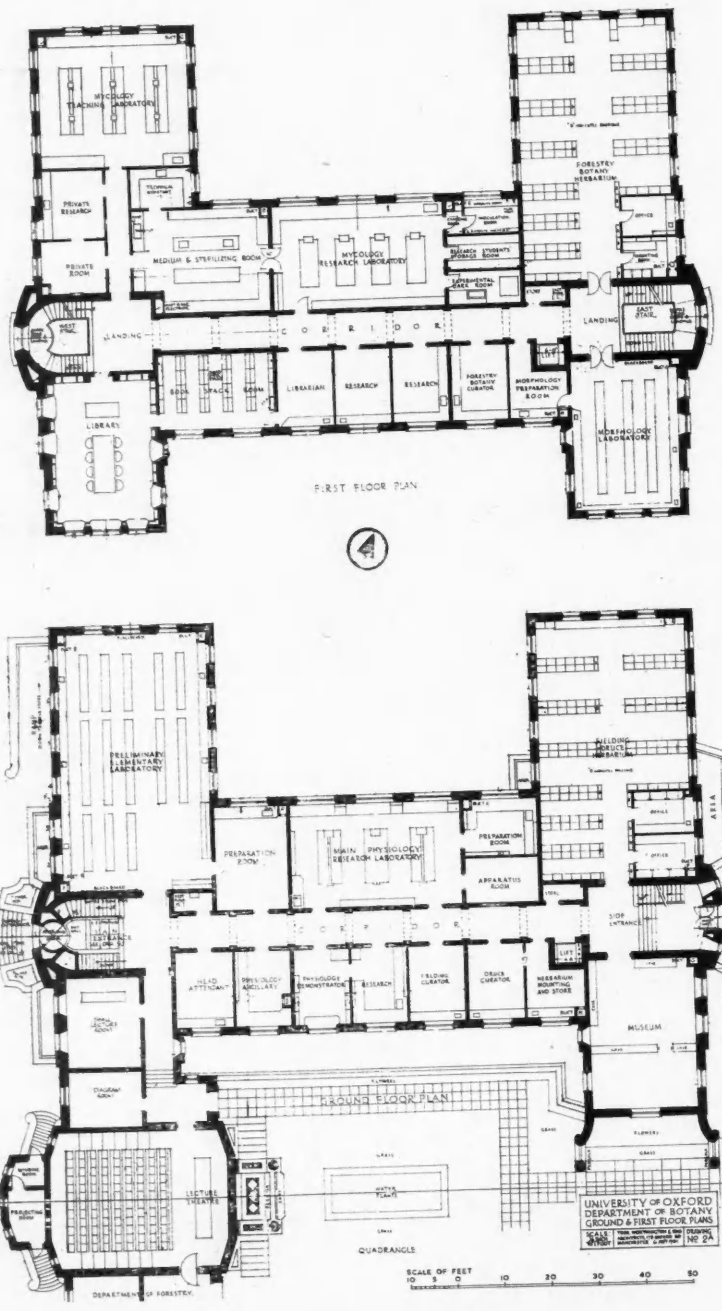
The layout.



View from north-west.

View in the east pergola, carried out in Bladon stone.

Detail of the west entrance.



ON October 8, 1951, the new building of the Department of Botany was opened by the Lord Rothschild, and the ceremony was the culmination of many years of work on the large block which the Schools of Forestry and Botany have built round a central garden quadrangle off South Parks-road. The group forms an important addition to Oxford architecture and the scientific departments of the University. We illustrated the Department of Forestry and Imperial Forestry Institute in our issue of January 12, 1951.

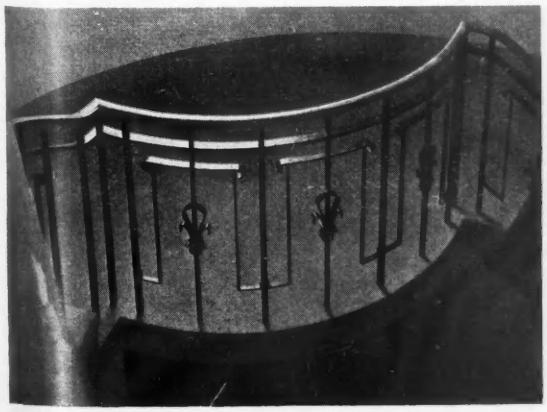
The first building for the study of botany in Oxford stood near to Magdalen Bridge, outside the walls of the Physic Garden. The agglomeration of buildings, constructed for various purposes over a period of 200 years, was wasteful of space and effort, and highly inconvenient. It was much too small, and the Herbaria were scattered in three different parts of Oxford. It was a serious decision to give up the old site by the Physic Garden, which had been the home of botanical teaching since Professor Morison's time, in 1669, but the site was cramped,

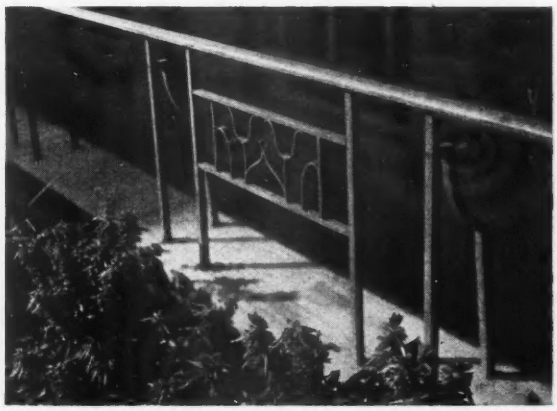
and it lay more than a mile from the other science buildings. In 1938, after careful consideration, it was decided to transfer the Department to a new building in the Museum area. It was agreed that the Departments of Forestry and Botany should share one block, the Imperial Forestry Institute taking the road frontage, and the Department of Botany the northern part, overlooking the Parks.

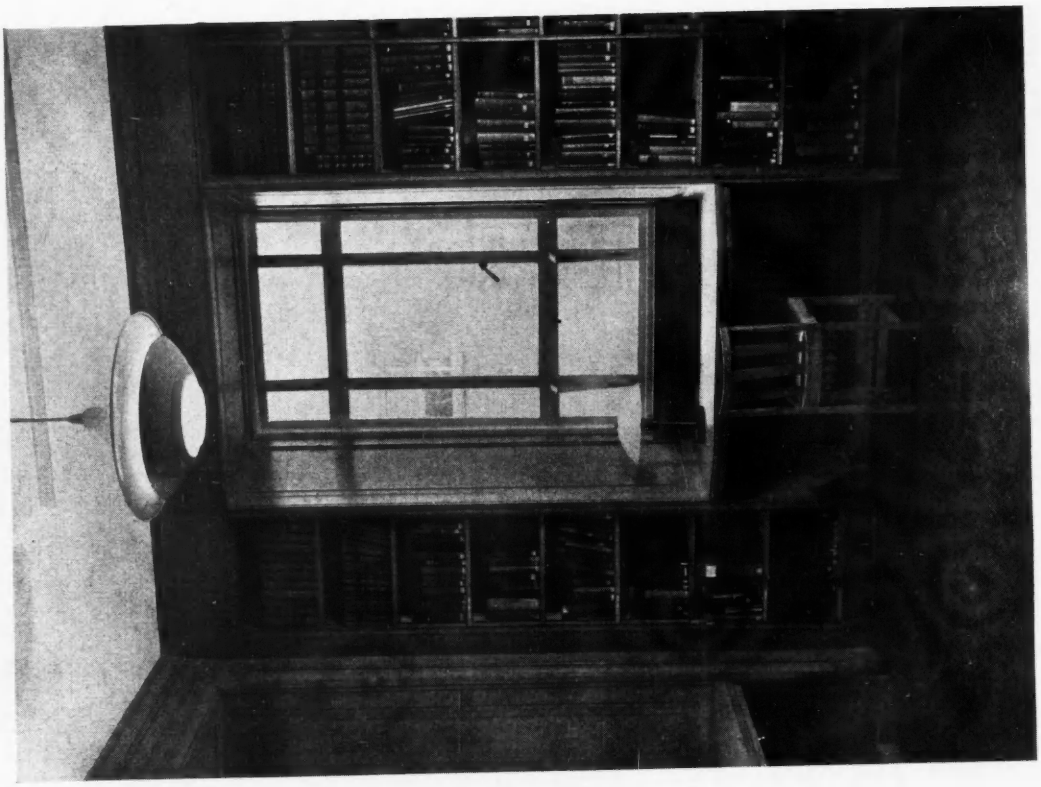
The University appointed Sir Hubert Worthington, A.R.A., as the architect, and in 1939 work began on the plan for the whole block of buildings. The Botany building, like the Forestry building, has Bladon walling with Clipsham stone dressings, and is a fine example of masonry. The building, as will be seen from the plan form, is excellently lit, with windows on three sides of many of the laboratories and Herbaria. It is steel-framed, with concrete floors. The main services are carried in vertical ducts throughout, which will facilitate rearrangement of the rooms necessitated by development of the subject. There are three floors with a semi-basement, and a flat roof with a greenhouse where much work will be done. The main corridors, 112 ft. long, have a staircase at either end, clearly expressed in the facades. The smaller individual research rooms and offices are on the south side, looking over the quadrangle, the larger laboratories to the north, overlooking the Parks. The building is fully equipped for the most up-to-date research.

The garden quadrangle is an important and charming feature. It is approached from the east through double pergolas with fat stone columns, and has a lawn in the centre of which is a pool for water plants. The level of the water is cunningly maintained at the top of the stone surround by a balancing tank in the basement; thus the full mirror effect of reflection is maintained. At the end of the axis, against the large lecture room that is shared by both sides, is another pergola on a raised platform with steps on either side. When everything has

The west staircase. Below (left): Wrought iron balustrade on the circular landing over revolving door at west entrance. (Right): A tulip motif executed in wrought iron in the garden quadrangle.

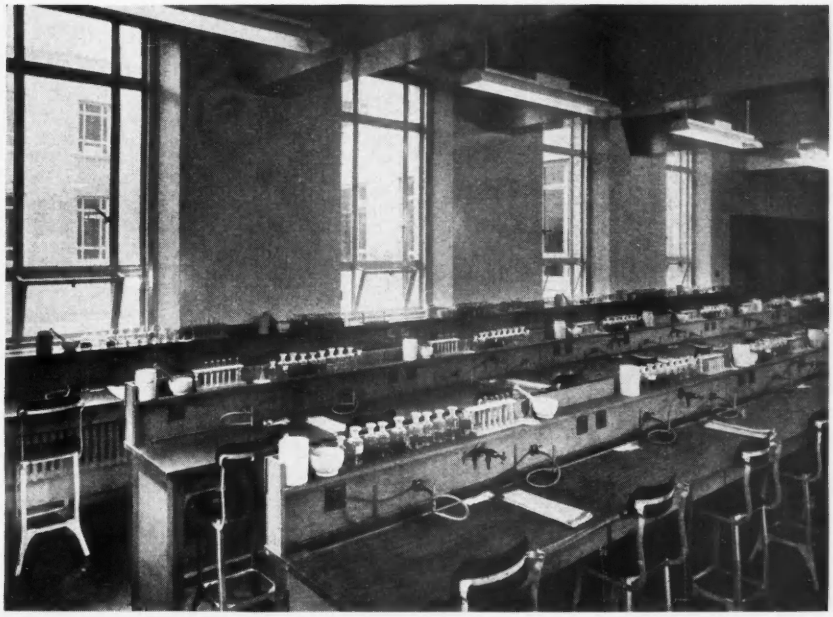






The library, in English oak. Detail of a window reading-table.

Detail of the large lecture theatre.



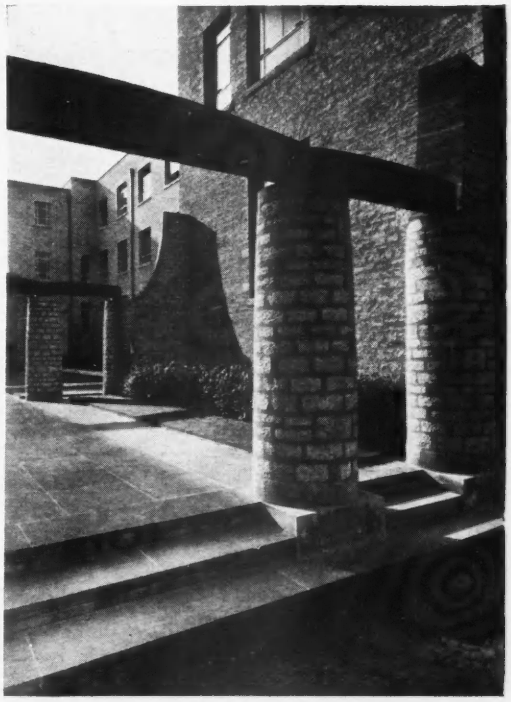
Elementary teaching laboratory.

grown up, it should form a quiet, beautiful and restful symbol of the subject taught.

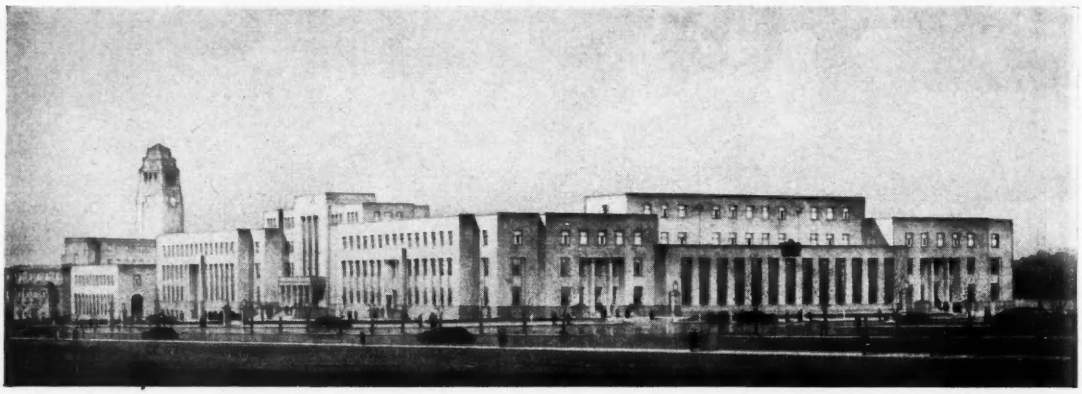
The building industry, and in particular the masonry industry, should be grateful to Oxford University for building this large block of buildings in first-class masonry, because masonry has always been in the foreground of Oxford building. Unless this building had been undertaken, a very serious situation might have arisen, because the other science buildings have all been built in brick. It has, therefore, meant continuous employment and encouragement to banker masons and their apprentices in the Clipsham ashlar, and for the wallers in the Bladon walling, which is a sound local stone quarried seven miles from Oxford. The benefits of this decision to build in stone will, therefore, be felt throughout the whole of Oxford, not only in other new buildings that will be built in masonry but in the repair of the large number of University and College buildings for which there is a continuous demand for stone.

The quantity surveyors were: Messrs. Wm. Fishwick and Son, of Manchester; the consulting engineers, Messrs. C. S. Allott and Sons, of Manchester (structural steelwork); Messrs. Handcock and Dykes, of London (electrical work); the clerk of works was Mr. T. R. Davies; and the general contractors, Messrs. Benfield and Loxley, Ltd., of Oxford.

Sub-contractors and suppliers were: Structural steelwork, Redpath Brown and Co., Ltd.; reinforced concrete work, W. MacDonald and Co., Ltd.; heating, sanitary engineering and plumbing, F. G. Alden, Ltd.; flush doors, panelling, book cases, etc., J. P. White and Sons, Ltd.; wrought iron balconies, balustrades, etc., Birmingham Guild, Ltd.; cast lead rainwater pipes and heads, F. Church; teak block flooring, A. M. MacDougall and Son, Ltd.; cork flooring, Mundet Cork Products, Ltd.; "Granwood" flooring, Granwood Flooring Co., Ltd.; sanitary fittings, Shanks and Co., Ltd.; reconstructed stone stairs, paving, etc., Empire Stone Co., Ltd.; electric lift, Waygood-Otis, Ltd.; metal windows, metal doors and lantern lights, Henry Hope and Sons, Ltd.; glazing, H. Hunter and Co.; wall tiling, partitions and terrazzo work, Conways, Ltd.; revolving door, T. B. Colman and Sons, Ltd.; blinds, J. Avery and Co.; lightning conductors, J. Faulkner and Sons, Ltd.; electric installation, Lowe and Oliver, Ltd.; ironmongery, Laidlaw and Thomson, Ltd.; "Paxtile" ceilings, Newalls Insulation Co., Ltd.; steel book stacks and bronze fronts to book-cases, Luxfer, Ltd.; and greenhouse, Messenger and Co., Ltd.



The eastern pergola leading to garden quadrangle.



Drawn by Cyril A. Farey and Adams

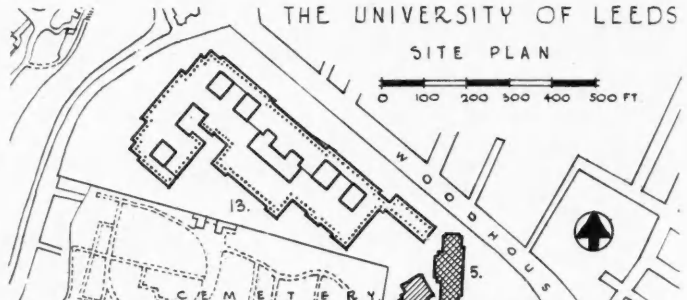
The north block.

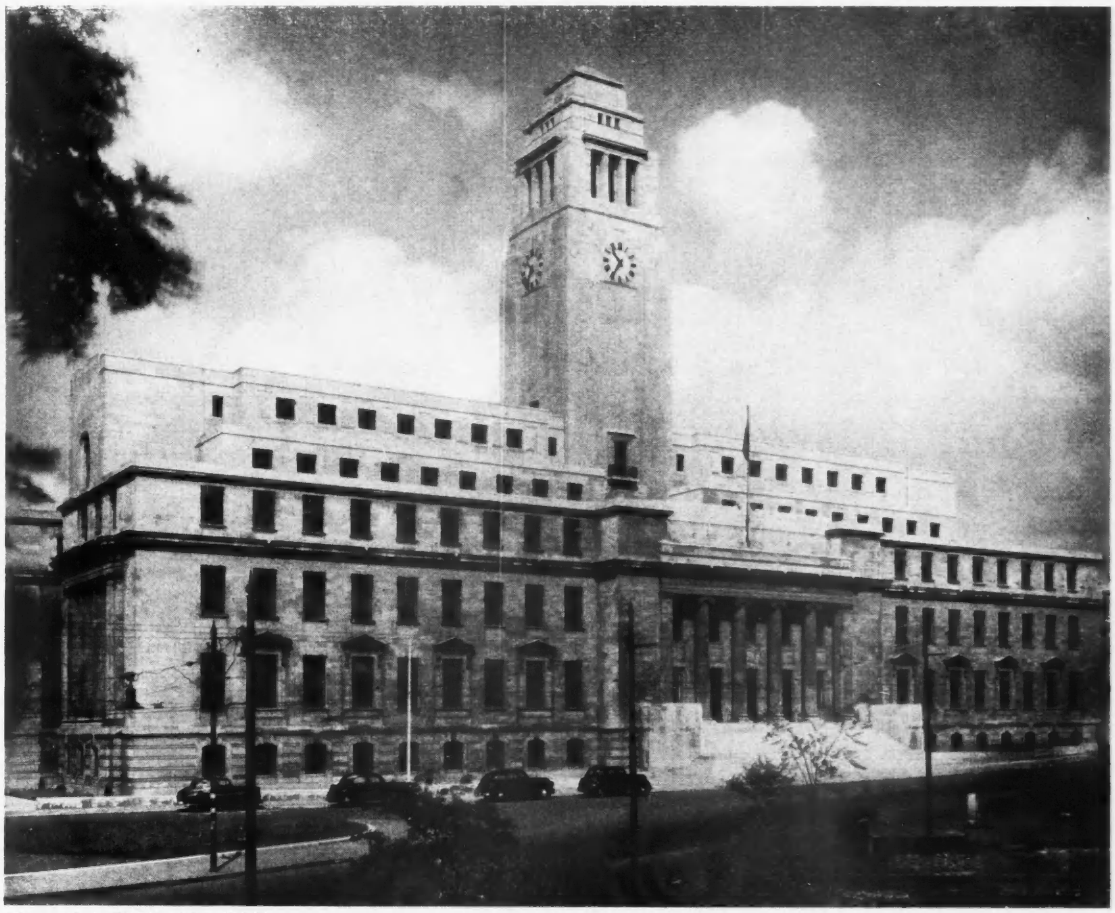
NEW BUILDINGS AT THE UNIVERSITY OF LEEDS

T. A. LODGE, OBE, Hon.LITT.D(Leeds), FRIBA, FRICS
(OF LANCHESTER AND LODGE), ARCHITECT

THE opening on November 9 last of the Parkinson building at the University of Leeds by H.R.H. The Princess Royal, recalls the architectural competition held in 1926 for the future development of the University as then envisaged. The competition was a limited one, and the design placed first was that of Messrs. Lanchester, Lucas and Lodge. The scheme at that time was based on a large new library, later known as the Brotherton Library, approached through the central court, which was intended as a meeting place for students. On the north side of this court the new science buildings were grouped, consisting of chemistry, physics, mining, etc., and on the south side, buildings for the arts and the administration building. This scheme also included, to the south of University-road, a new great hall for ceremonial and other meetings, beneath which was to have been placed the refectory. A building for the students' union was to the west of this hall. The mining building, physics building, part of the chemistry buildings and the main library were completed by the end of 1936. The following year Mr. Lodge was appointed sole architect for the Parkinson building, and later for other buildings on the main University site.

After the war it was found that the requirements of the University had increased and the original block plan needed reconsideration. Mr. Lodge was then instructed to prepare a revised master plan showing how the additional accommodation could be provided on an increased site, extended both to the north and south of the original scheme.


THE UNIVERSITY OF LEEDS
SITE PLAN
0 100 200 300 400 500 FT
WOODHOUSE LANE
CEMETERY
UNIVERSITY ROAD
1. PARKINSON BUILDING. 2. BROTHERTON LIBRARY 3. CHEMISTRY
4 PHYSICS 5. MINING 6. STUDENTS UNION 7. GYMNASIUM
8. TEXTILE EXTN. 9. REFECTORY (UNDER CONSTRUCTION) 10. RAYON
11. FUTURE BUILDING 12. FUTURE CHEMISTRY & PHYSICS EXTENSION
13. FUTURE NORTH BLOCK 14. TEMPORARY REFECTORY (ARCH. WM. TOCHER A.R.I.B.A.)
ORIGINAL EXISTG BLDGS.
NEW BUILDINGS.
PROPOSED BUILDINGS



Photographs by W. Blackledge, ARPS

General view of the Parkinson building.

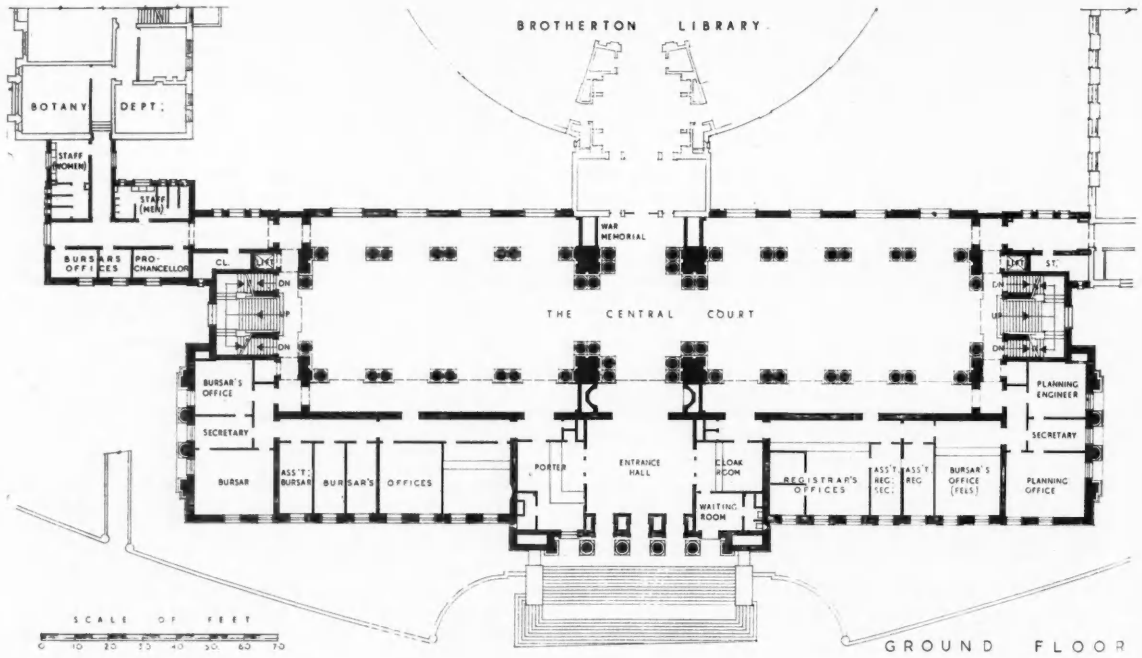
The Revised Layout : On the land to the north, along Woodhouse-lane, the buildings for civil, electrical and mechanical engineering were planned, together with a building for the departments of coal, gas and fuel industries, with metallurgy and chemical engineering and a department of architecture ; also a new central boiler plant connecting up all buildings with a ring main, since the existing boiler houses could not deal with the additional loads. To the south also, many additional buildings had to be included, such as the provision of the new refectory and staff house building adjoining the union building and a new rayon building adjacent to the textile department, and these are shown on the block plan. Perspective drawings of these blocks are illustrated and the work on the refectory is now started.

The plan also includes a swimming bath, gymnasium and graduates' club, together with future buildings for the arts, botany, geology, extension of library, surveyor of the fabric's offices and stores and new medical school buildings on a site adjacent to the Leeds Infirmary.

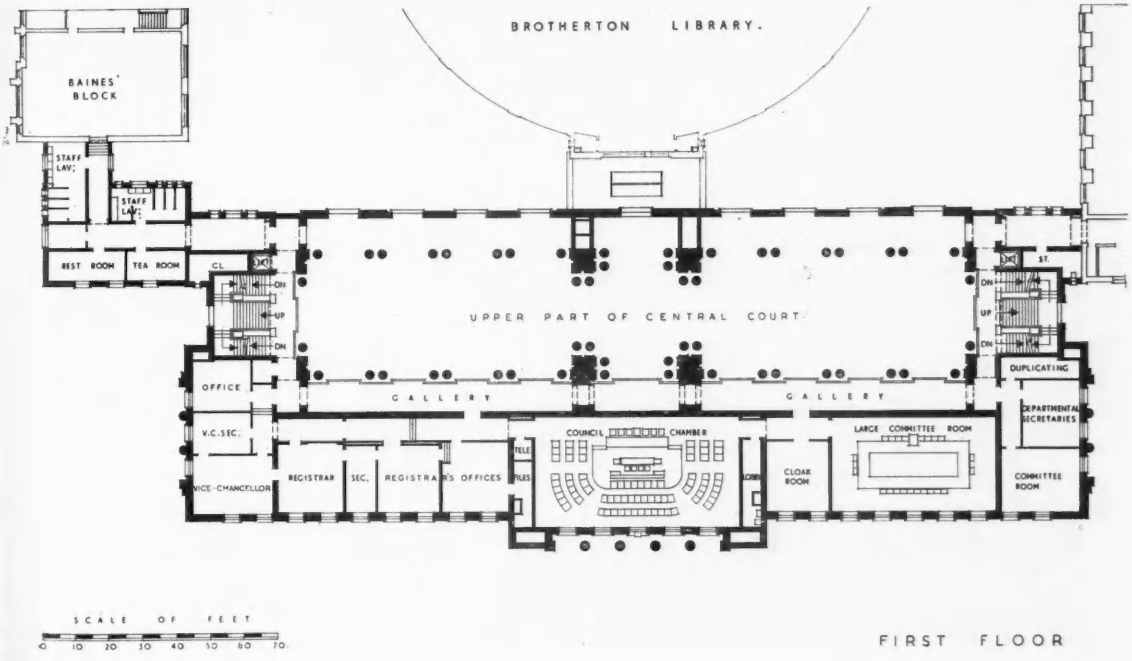
THE PARKINSON BUILDING, started in 1938, is the central building of the University, and its tall tower, seeming to link more closely the University with the City, adds a new feature to the skyline of Leeds from many directions, standing a few feet higher than any other existing building. The whole front of the building is faced in Portland stone, the main entrance being approached by a wide flight of steps leading to three main central doors in a portico of the Ionic order. This entrance leads to a small vestibule with rooms for porter and cloaks on either side and on into the central court. The central court is 215 ft. long, 57 ft. wide and two storeys in height. It is flanked by coupled columns down each side, giving support to the tower and upper floors of the building. The columns are of simplified Doric order and are constructed with a steel and concrete centre and faced with polished Portland stone. At the north and south end of the court are the two main staircases, with green rubber covering on the treads and risers, solid balustrades and bronze hand-rails. A gallery runs along the east side giving access to the council chamber and committee rooms, and large windows give good lighting from the west wall. The floor of this court is of Rhodesian teak and the ceiling is panelled in acoustic plaster.

The basement contains the main University cloakrooms, the calorifiers, some offices and classrooms ; the ground floor, the pro-chancellor's room and the offices of the bursar, planning engineer and other general rooms. On the first floor, in addition to the council chamber and common rooms, are the rooms of the vice-chancellor and registrar, with their secretaries and general offices. On the second and third floors are large and small lecture rooms, while on the fourth floor is a series of small rooms for members of the staff, arranged on either side of a central corridor. The tower houses the ventilation plant, water tanks and clock and has an observation room giving a commanding view of the city on all sides. The block

View in central court.



The council chamber.



FIRST FLOOR

joining the Parkinson building to the Baines block at the south houses sanitary accommodation.

The building is constructed with load-bearing outer walls, but the centre section and stairs have a steel frame. The floors and stairs are of fireproof construction. Metal windows are used throughout, with flush doors with walnut finish. The door frames and skirtings are also walnut in the principal rooms. Floors are mostly teak, some of the corridors being in rubber.

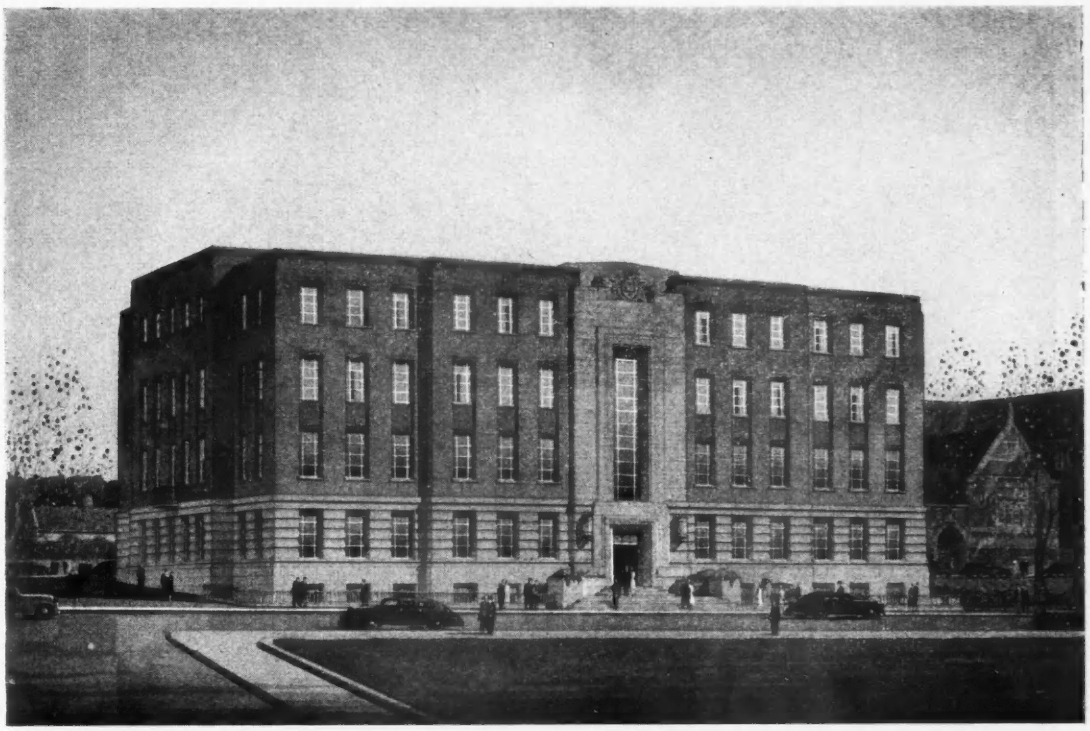
The council chamber, which has a tiered floor, is panelled to a height of 16 ft. in flush panelling of American black walnut, above which is a frieze of acoustic stone. The seating is also of walnut, upholstered in blue leather. The carpet is in a neutral tone and windows have plum coloured curtains. The centre part of the ceiling is raised and has a central laylight. The committee rooms have plaster walls on which panels are formed in the same material, and are painted a light colour, the furniture being walnut with dark green leather. Special care has been taken to keep the building quiet.

Heating is by rayrads under the windows, giving a flush finish with all pipes concealed behind movable covers, the steam from the main boilers being brought to the calorifier room under the main entrance. No artificial ventilation is provided in the central court, but all rooms facing the main road have double windows to prevent noise, and these rooms are supplied with clean warm air to give controlled temperatures.

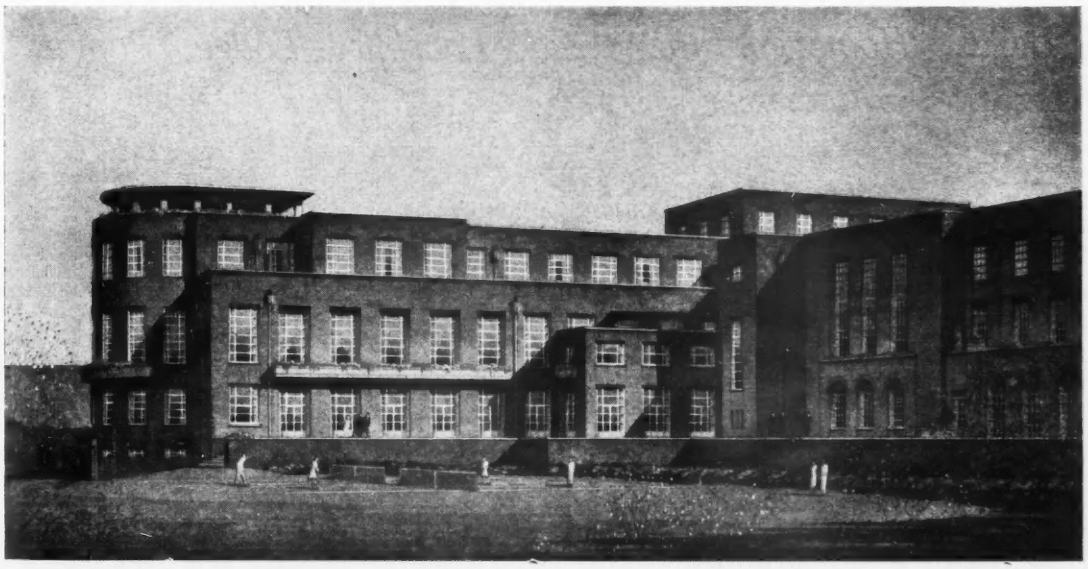
The quantity surveyors were Messrs. Thos. Priestley and Sons, of Leeds; the consulting engineers Messrs. J. Stinton Jones and Partners, of London; and structural engineers Messrs. R. Travers Morgan and Partners, also of London; carvings were by Mr. Wm. Bloye, F.R.B.S. The main contractors were Messrs. J. T. Wright and Sons, Ltd., of Leeds.

Nominated suppliers and sub-contractors were: Electrical installation, Troughton and Young, Ltd.; mechanical services, Ashwell and Nesbit, Ltd.; main entrance doors, glazed screen, clock chapters, balustrading, laylights, etc., J. Starkie Gardner, Ltd.; lifts, Etchells, Congdon and Muir, Ltd.; hollow tile flooring, Wm. Airey and Sons, Ltd., and the Kleine Co., Ltd.; fibrous plaster, H. H. Martyn and Co., Ltd.; acoustic tiles and stone, May Acoustics, Ltd.; sanitary fittings, Shanks and Co., Ltd.; metal windows,

Parkinson building from the north.



UNIVERSITY OF LEEDS : The Rayon building (future).



The refectory and staff house building (now under construction).

Henry Hope and Sons, Ltd. ; strong room doors, Milners Safe Co., Ltd. ; metal partitions, Roneo, Ltd. ; extract duct grilles, Comyn Ching and Co., Ltd. ; dark blinds, Jos. Avery and Co. ; doors, J. P. White and Sons, Ltd. ; balustrading, cat ladders, iron staircases, etc., Dixon Powner and Sons ; rubber flooring, North British Rubber Co., Ltd. ; terrazzo, W. B. Simpson and Sons, Ltd. ; wood block flooring, Acme Flooring and Paving Co., Ltd. ; ironmongery and door furniture, Joseph Kaye and Sons, Ltd.

Blackboards, lecture theatre benches, etc., Halstead Bros., Ltd. ; lightning conductor, W. J. Furse and Co., Ltd. ; acoustic spray, J. W. Roberts, Ltd. ; panelling and counters, Wm. Nicholson and Sons, Ltd. ; linoleum, Denby and Spinks, Ltd. ; Portland stone columns, Travertine flooring, war memorial, commemorative stones, etc., W. W. Jenkins and Co., Ltd. ; electric fires, Bratt Colbran, Ltd. ; paving, Leeds Corporation ; asphalt to steps, Tunstalls, Seyssel and Limmer Rock Asphalte Co., Ltd. ; handrail and cat ladders, Isaac Robson and Co., Ltd. ; glass to laylight, Plyglass, Ltd. ; council chamber seating, etc., Waring and Gillow, Ltd. ; notice boards, Betterways, Ltd. ; cork notice boards, Armstrong Cork Co., Ltd. ; light fittings, Troughton and Young (Lighting), Ltd. ; dark blinds, W. J. Howell and Co. ; partitions, Holoplast, Ltd. ; and tiling, Carter and Co., Ltd.

Direct contracts were : furnishings, Waring and Gillow, Ltd. ; memorial clock, W. W. Jenkins and Co., Ltd. ; and coat and hat stands, phonetics department, fittings and dresser to tea room, Wm. Nicholson and Sons, Ltd.

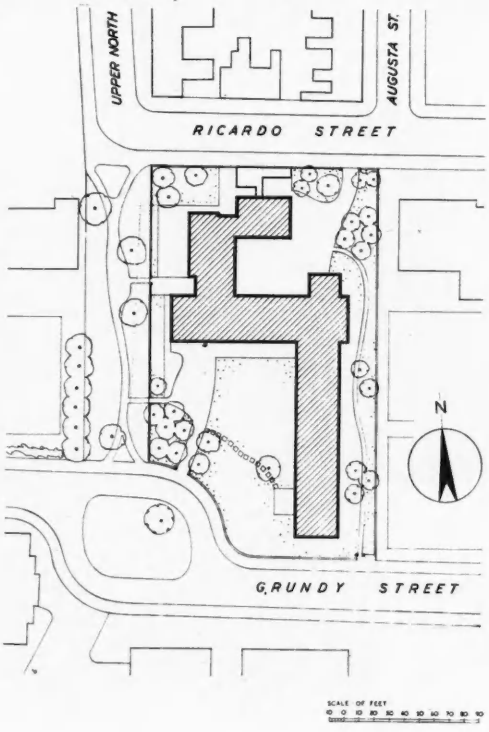
The south front, with the main entrance to the left.

L.C.C. Home for the Aged, Lansbury Lodge, Poplar

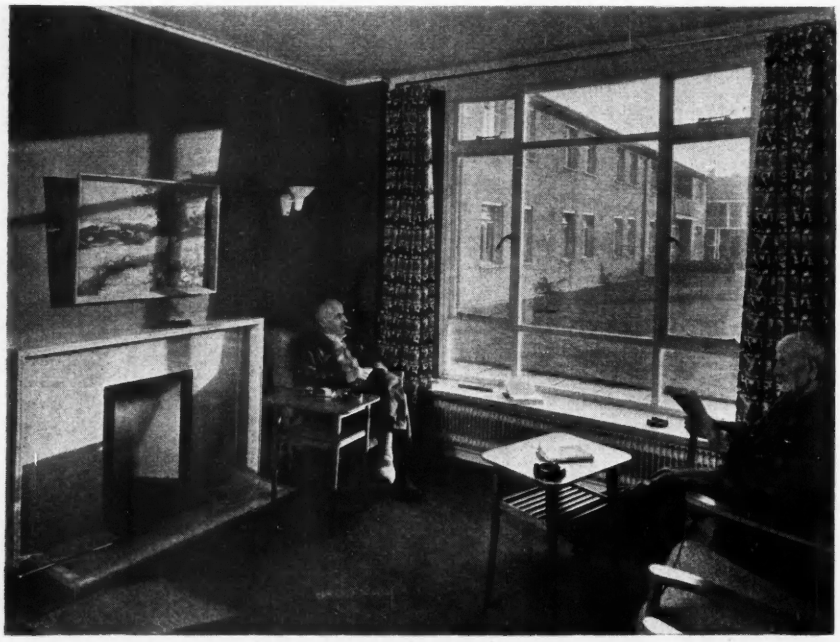
BOOTH AND LEDEBOER, F/ARIBA, ARCHITECTS

THE home, which forms a part of the L.C.C. scheme for the new Lansbury neighbourhood, was designed for the L.C.C. Welfare Department. It provides for 49 old persons of both sexes. The accommodation is planned on two floors and consists of 33 single and eight double rooms, each equipped with a wash basin and hanging cupboard. There are five sitting-rooms of varying sizes, a dining hall and kitchen, two flats for matron and deputy matron and accommodation for resident and non-resident staff. The building is designed to avoid a suggestion of an institutional atmosphere. An intimate and domestic character was sought; at the same time it was regarded as important that the residents should not feel segregated from the life of the neighbourhood.

Living-room accommodation is sub-divided into a number of small sitting-rooms of varying sizes—some no bigger than ordinary living-rooms—to create a background of domestic character. The site falls slightly from north to south, and the length of the building necessitated some cutting away at the north end and building up at the south. Stepping of floor levels was not permissible because of risk of accidents and wheel chair traffic, and horizontal planning was dictated by difficulties experienced by old people in negotiating stairs. The main stair is of exceptionally easy "going," having 12-in. treads and 5½-in. risers. A handrail is provided on both sides of all corridors. Steps are omitted at changes of level at the principal



The dining hall. Below : One of the lounge sitting-rooms which face west.

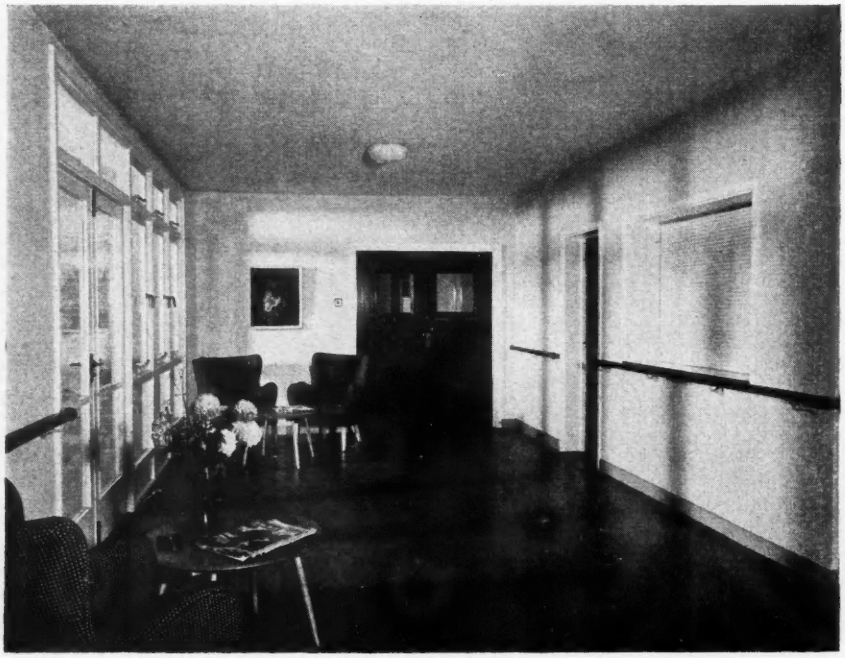


One of the small sitting-rooms which face south.

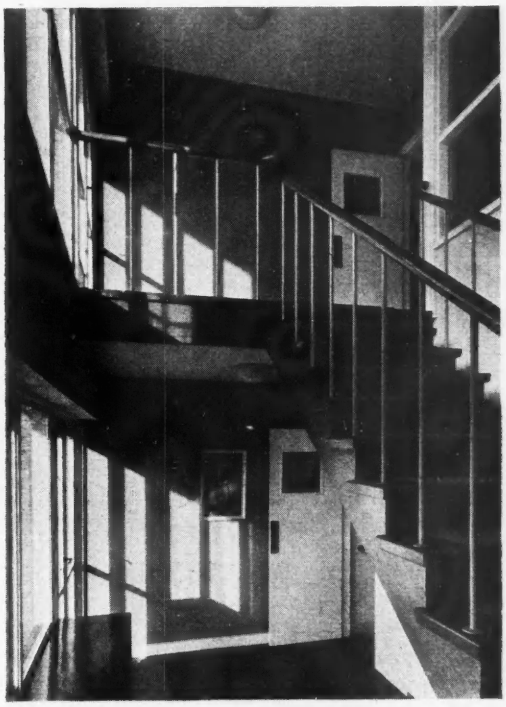
entrances, easy ramps being provided so as to facilitate the movement of wheel chairs. The sitting-rooms have either a south or west aspect. The majority of the bedrooms face east or west. A south-facing terrace is provided where residents may sit in warm weather. Two west-facing loggias and a covered balcony provide outdoor sitting space sheltered from the weather.

The building is faced externally with stock bricks and roofed with Welsh slates, to meet the recommendations of the L.C.C. which were based on consideration for the traditional early nineteenth-century housing typical of the locality. Reveals to windows are rendered and whitened. The horizontal lines of the building are relieved by prominent chimney stacks, a feature which has associations both with the traditional almshouse and with domestic comfort.

Construction.—(*a*) 9-in. brick load-bearing walls on concrete strip foundations. (*b*) External walls insulated with 3-in. hollow clay block separated from brickwork by 1½-in. cavity. (*c*) Reinforced concrete first-floor slab. (*d*) Sound insulation in first floor by 1-in. glass silk quilt laid on structural slab, and 2-in. fine concrete screed. (*e*) Roof of timber with light timber trusses with bolted connections. (*f*) Roof covering of Penrhyn grey random slates. (*g*) Roof insulation 1-in. glass silk quilt laid on first-floor ceiling joists. (*h*) Windows: metal in wood frames. All windows, except in service rooms, designed with recesses for curtains.



Entrance hall. The glazed doors on the left give access to the west-facing loggia. The rolling shutter on the right encloses the canteen.



The secondary stair at the south end of the bedroom wing. Below : The principal staircase from the entrance lobby.

Equipment and Finishes.—(*a*) FLOORS.—Non-slip floor finishes were regarded as desirable, especially in communal rooms. Corridors : cork. Lavatories and bathrooms : rubber. Dining hall : wood block. Sitting-rooms : wood block. Staircase : hardwood carpeted. Bedrooms : asphalt tiles. Kitchen : non-slip tiles. (*b*) WALLS.—Walls generally plastered and flat finish. Bedrooms : plastered and flat finish. Corridors : plastered and flat finish. Dining hall : plastered and flat finish. Sitting-rooms : plastered and papered. Kitchen : glazed tiles. (*c*) CEILINGS.—Plastered and whitened. (*d*) WINDOW BOARDS.—(i) Communal rooms : coloured glazed tiles and terrazzo. (ii) Bedrooms : pressed metal. (*e*) JOINERY.—Painted gloss paint.

Heating.—(*a*) Central heating by hot water. Pipework concealed in trenches and ducts. Radiators in recesses under windows. (*b*) Boiler-room in basement with two sectional boilers supplying heating and hot water (the latter from a calorifier fed from either or both boilers). (*c*) Boilers fed by underfeed automatic stoker sunk below floor level and communicating direct to basement-level bunkers. (*d*) Bunkers charged through coal plates in service yard. (*e*) Hand-operated ash hoist from boiler room to ash store at ground-floor level opening on to service yard. (*f*) Solid fuel fires (in addition to radiators) in sitting-rooms for domestic atmosphere.

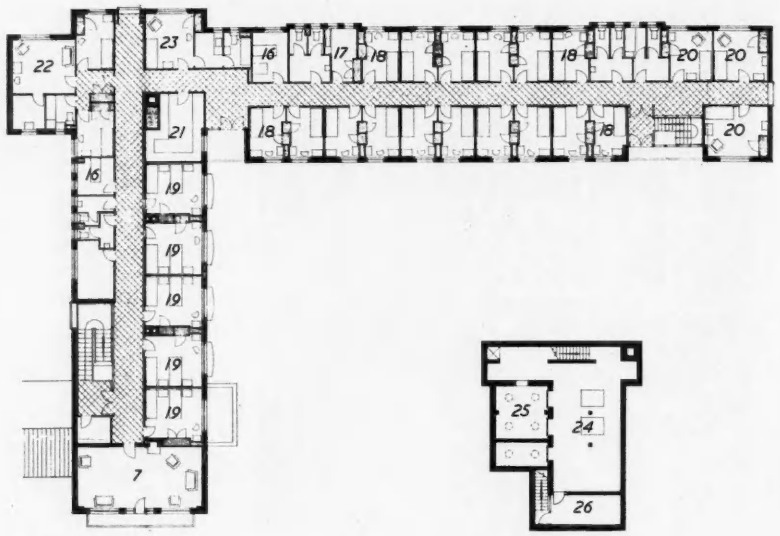
Electrical.—(*a*) In addition to general lighting by ceiling points, individual wall lighting fittings are provided in sitting-rooms and beside each bed. (*b*) Skirting points are provided in all main rooms for lighting fitting, vacuum cleaners, radio, etc.

Cooking.—All cooking equipment is gas-fired.

The quantity surveyors were Messrs. Wakeman, Trower and Partners, and the consulting engineers, Messrs. Andrews, Kent and Stone. The general contractors were Messrs. C. Miskin and Son, Ltd., of St. Albans.

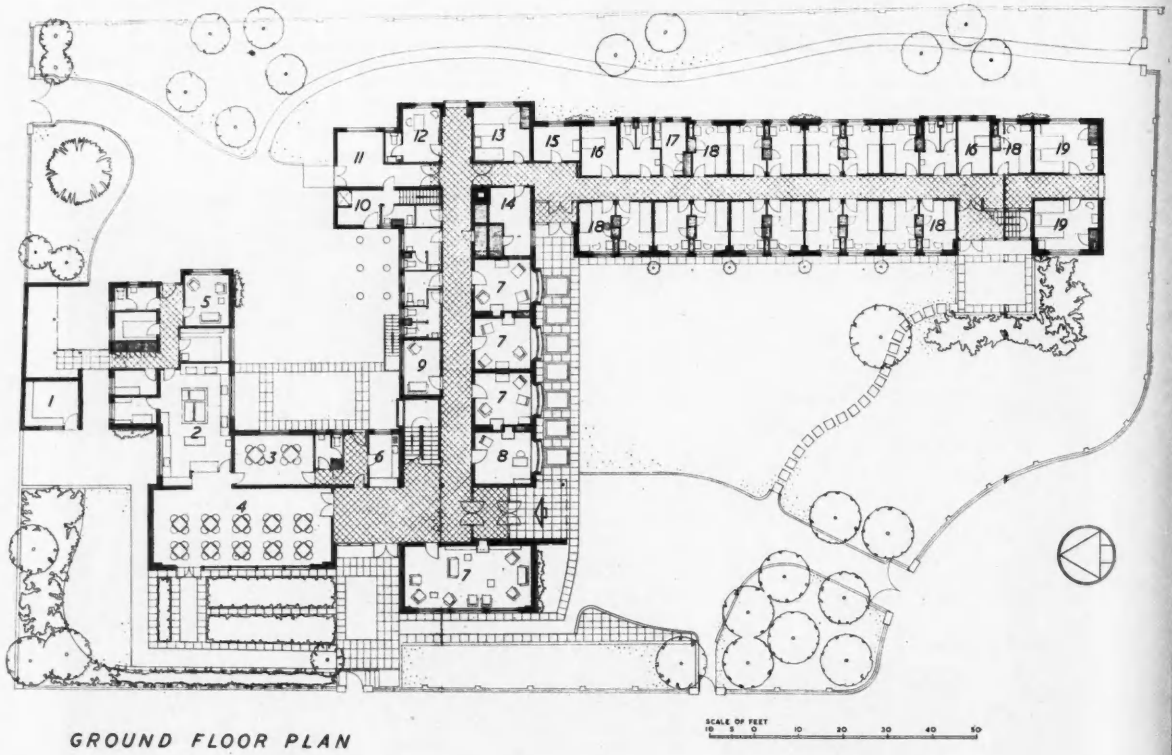
KEY TO BASEMENT, GROUND & FIRST FLOOR PLANS

1 Gardener
2 Kitchen
3 Staff Dining room
4 Dining Hall
5 Staff Sitting room
6 Canteen
7 Sitting room
8 Matron's Office
9 Visitors
10 Ash Store
11 Wheel Chair Store
12 Doctor
13 Sick Bay
14 Linen Store
15 Ironing room
16 Bath room
17 Sluice room
18 Single Bed room
19 Double Bed room
20 Staff Bed room
21 Blanket Store
22 Matron's Flat
23 Deputy Matron's Flat
24 Boiler room
25 Fuel Bunkers
26 Workshop



FIRST FLOOR PLAN

BASEMENT PLAN



GROUND FLOOR PLAN

Contractors, sub-contractors and suppliers were: Sanitary fittings: Shanks and Co., Ltd.; plumbing installations: W. H. Earley, Ltd.; heating and hot water installations: Earley and Noon Heating Co., Ltd.; electrical installation, (including lighting, fittings and panel fires): Troughton and Young, Ltd.; gas installations: North Thames Gas Board; landscape gardening: William Wood, Ltd.; ash hoist: Bennie Lifts, Ltd.; kitchen equipment: The Falkirk Iron Co.; facing bricks: Cremer Whiting and Co.; terrazzo cills and floors: Art Pavements and Decorations, Ltd.; "Semastic" tile floors and wood block floors: Hollis Bros., Ltd.; cork tile floors: Armstrong Cork Co., Ltd.; rubber floors: E. J. Elgood, Ltd.; artificial stone: Enfield Stone Co., Ltd.; slate cills, shelves, etc., and slate roofs: E. F. Williams, Ltd.; flush doors: Gliksten Doors, Ltd.; metal windows: James Gibbons, Ltd.; carpets and matting: Russell Furnishings, Ltd.; steel roller shutters: Haskins Iron Works; glazed wall tiling: Carter and Co. (London), Ltd.; pressed steel cills: G. A. Harvey and Co. (London), Ltd.; ventilation grilles: Colt Ventilation, Ltd., and British Trane Co., Ltd.; signwriting and nameplates: the Lettering Centre; railings: Clark, Hunt and Co., Ltd.; common bricks and partition blocks: London Brick Co., Ltd.; paint: Screeton, Paintmaker; fireplaces: Bratt Colbran; ironmongery goods: A. J. Binns, Ltd., and Dryad Metalworks; rainwater goods: Vitreflex; automatic stokers: Ashwell and Nesbitt, Ltd.

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NOTES & NEWS

PETROL-FILLING STATIONS

THE design of petrol service stations has long been a sore point with those who like to see good design applied to structures in everyday use. Shell-Mex and B.P., Ltd., are, therefore, to be congratulated in organising an architectural competition, in three sections, for the design of filling stations, and on enlisting in its conduct the aid of the R.I.B.A. The competition was floated on Monday at a luncheon in London when the President of the Royal Institute announced that, additionally to recommending the strong jury of assessors, he has nominated architects in various regions to act as consultants and to give advice to petrol distributors in the selection of architects for any work of extension or improvement of their premises. This seems to us to be a wholely admirable step in the direction of checking the thatched filling stations and other unhappy attempts at overcoming the dismal appearance of what should be contemporary if utilitarian structures.

R.I.B.A. ASSOCIATESHIP AND PRACTICAL EXPERIENCE

THE Board of Architectural Education (R.I.B.A.) have given exhaustive consideration to the possibility of setting up some machinery for dealing with cases of alleged hardship which may arise, particularly in the case of ex-war service candidates, as the result of the regulations for the Examination in Professional Practice and twelve months' practical experience which came into operation on January 1, 1951. The Board, after considering the matter from all possible angles, have decided with regret that it is impracticable to set up any machinery for dealing with appeals.

THE NEW BUILDING CENTRE

COSILY PLACED at the centre of the architectural hive, at 26, Store-street, Bloomsbury, W.C., the new Building Centre has opened its doors. It is to be congratulated on the change from Conduit-street, for the trend of building, in which the private client has far less part than in pre-war days, means that about 2,000 architects and students now have a universal showroom on their doorstep. The building itself, an old motor showroom, has been beautifully converted by Mr. Gontran Goulden, A.R.I.B.A., and a team of assistants, and now compares with the Bouwcentrum, the New York Building Centre or, indeed, any similar organisation in the world. Indeed, since it is now possible to park a car outside without subsequently appearing at Great Marlborough-street, it may be said to lead the world.

PROFESSIONAL ANNOUNCEMENTS

MR. O. H. COLLINS, M.A., F.R.I.B.A., F.R.I.C.S., M.R.San.Inst., of Messrs. M. E. and O. H. Collins, Chartered Achitects, 115, Old Broad-street, E.C.2, has taken into partnership MR. M. GLICKER, A.R.I.C.S. The style and title of the practice will continue as before.

MR. L. W. CHOPPING, A.R.I.C.S., chartered quantity surveyor, has moved his office address from No. 29 to No. 17, Market-place, Reading. The telephone number remains Reading 60634.

MESSRS. F. J. MEEKINS and PARTNERS, quantity surveyors, of 20, Balcombe-street, Dorset-square, St. Marylebone, London, have opened a branch office at 15, Church-street, Ilkley, Yorkshire.

THE NEW BUILDING CENTRE, 26, Store-street, Bloomsbury, which opened last week.

FROM "THE BUILDER" OF 1852

Saturday, January 10, 1852

ANCIENT AND MODERN BUILDING IN IPSWICH.—A joking but malicious lithograph under this title has been published, contrasting "The earnest endeavours of the corporation to *pull down* the old grammar school-room, erected 1351," with "the earnest endeavours of the corporation to *keep up* the new grammar school-room, erected 1851," and dedicated, "without permission," to the mayor, aldermen and common councilmen of the borough. The point of the satire, as our readers may call to mind, consists in the fact of one of the walls of the new building having partially given way.

COMING EVENTS

FRIDAY, JANUARY 11

COUNTY TECHNICAL COLLEGE AND SCHOOL OF ART.—Opening of exhibition of students' work. Guildford House, High-street, Guildford. 7.30 p.m.

SUNDAY, JANUARY 13

SOCIETY FOR CULTURAL RELATIONS WITH THE U.S.S.R.—Talks on "New Soviet Construction Schemes," and film. Battersea Town Hall. 3 p.m.

MONDAY, JANUARY 14

INSITUTE OF QUANTITY SURVEYORS (LONDON BRANCH).—Lecture on "Design," by Mr. F. Warnett Kennedy. Caxton Hall, Westminster, S.W.1. 6.30 p.m.

INSTITUTE OF HOUSING (LONDON AREA BRANCH).—"Densities and Subsidies in Central Areas," by Mr. M. Bond, M.C., M.A. Town Hall, St. Pancras, Euston-road, N.W.1. 6.30 p.m.

R.I.C.S. (JUNIOR ORGANISATION).—Film show—"The Manufacture of Glass for Windows," 12, Great George-street, S.W.1. 6 p.m.

TUESDAY, JANUARY 15

HOUSING CENTRE.—"Neighbourhood Planning in the New Towns," by Mr. S. L. G. Beaufoy, C.B.E., F.R.I.B.A., V.P.T.P.I. 13, Suffolk-street, Haymarket, S.W.1. 6 p.m.

WEDNESDAY, JANUARY 16

R.I.C.S.—A paper on the "History of Quantity Surveying." 12, Great George-street, S.W.1. 6 p.m.

REINFORCED CONCRETE ASSOCIATION.—"Research and its Practical Applications," by Mr. S. Champion, M.Sc., A.M.I.C.E., 11, Upper Belgrave-street, S.W.1. 6 p.m.

ROYAL SOCIETY OF ARTS.—"Influences Affecting Furniture Design," by Mr. J. Craven Pritchard. R.S.A., John Adam-street, Adelphi, W.C.2. 2.30 p.m.

INCORPORATED INSTITUTE OF BRITISH DECORATORS.—"Modern Materials and Their Uses," by Mr. G. I. Goulden, A.R.I.B.A. Building Centre, Store-street, Tottenham Court-road, W.C.1.

COMPETITION NEWS

DESIGN OF SERVICE STATIONS

SHELL-MEX AND B.P., LTD., invite architects to submit designs in competition for petrol filling and service stations. The competition is in three sections :

A : Design for country service station.

B : Suburban or neighbourhood service station.

C : Main motorway service station.

The assessors are Messrs. David du R. Aberdeen, B.A., F.R.I.B.A., A.M.T.P.I.; D. A. Birchett, A.R.I.B.A.; and Frederick Gibberd, F.R.I.B.A., M.T.P.I.

The premiums in each section are : To the author of the design placed first, £300 ; to the author of the design placed second, £150.

Two additional prizes of £25 each will be awarded to designs in each section of the competition if, in the opinion of the assessors, they contain features of special interest in design.

Last day for submitting designs : April 18, 1952.

Conditions may be obtained on application to Publicity Department, Shell-Mex and B.P., Ltd., Shell-Mex House, Strand, London, W.C.2.

DESIGN OF FURNITURE

THE Rural Industries Bureau is holding a Furniture Design Competition. Entries are invited from rural furniture makers, but other makers and designers are eligible for the open class For full particulars write R.I.B., 35, Camp-road, London, S.W.19. Closing date for receipt of entries, January 28, 1952.

KENT PLANNING OFFICER

MR. JAMES W. R. ADAMS, Kent County Planning Officer, has been awarded the O.B.E. in the New Year Honours.

CORRESPONDENCE

COST OF LOCAL AUTHORITIES' ARCHITECTURAL DEPARTMENTS

To the Editor of *The Builder*

SIR,—In your issue of December 28, I read that the Bristol City Architect reports the cost of his department at £85,932 and the cost of building work for which it was responsible as £3,081,682. These figures certainly indicate the economy of an authority having its own architectural department, as the employment of private architects for an equal volume of work would involve rather more than double the architectural cost in fees, and this without reckoning on any quantity surveyors' fees.

The big disparity in costs of public and private architects is disconcerting, to say the least, and suggests either that private architects are a race of profiteering plutocrats or that public offices are run "on the cheap." Some colour is given to the latter suggestion by your comment on the statement's reference to staffing difficulties.

It would certainly be interesting to see how the costs of a public department are made up and, in particular, I would like to know if Mr. Meredith's department does deal with quantities.

GEOFFREY L. PRICE [A.R.I.B.A.]
26, St. Mary's-place,
Newcastle-upon-Tyne.

PURCHASE TAX AND BILLS OF QUANTITIES

To the Editor of *The Builder*

SIR,—I understand from several builders that in making adjustments in final accounts against p.c. sums in the bills of quantities, any purchase tax included in the invoice must by law be deducted from the total of the invoice before adding the builder's profit. I do not agree with this, as in the original bills of quantities there would be a p.c. sum to which the contractor has added a percentage profit. The contractor has no idea what part of the p.c. sum is in fact purchase tax, and it seems logical therefore that in the final account his profit should be added to the total amount of the invoice, including purchase tax.

If it is in fact illegal for a contractor to charge profit on purchase tax, it would seem that the quantity surveyor must, in preparing the bills of quantities, give a separate p.c. sum for the purchase tax, with instructions to the contractor that no profit must be added and that the amount is strictly net. I have not seen this in any bills of quantities to date, but perhaps some of your readers have had experience on this point.

A similar query arises in connection with cash discounts. Under the R.I.B.A. Contract, p.c. sums included in the bills of quantities are deemed to include 2½ per cent. or 5 per cent. discount, according to whether the work is by a nominated sub-contractor or a nominated supplier, but in actual payment the contractor cannot claim the cash discount on the value of purchase tax included in the invoice, and this again points to the advisability of inserting in the bills of quantities a separate p.c. sum for purchase tax, with a statement to the effect that the amount is strictly net.

A further small point upon which I seek guidance, and upon which I have found there to be a difference of opinion, is where dayworks are allowed in connection with a lump sum contract where the "rise or fall" clause operates. Should the rates for labour and material be priced at rates current when the work was executed, with the normal profit and overheads added to the total, or should labour and materials be priced at basic rates current at the date of tender, and the normal profit and overheads added to the total, with a further addition of the net extra cost over basic rates? If there is no "rise or fall" clause in the contract, should any dayworks be priced at the rates current when the work was executed, or at rates current at date of tender?

L. H. DARK [A.I.A.S.]
3, Berkeley-square,
Bristol, 8.

PLANNING OF HOSPITAL WARDS

To the Editor of *The Builder*

SIR,—I can assure Mr. Pite that in our work the practical needs of the nurse have not been overlooked. If he will compare the distances walked by the nurses in our plan with those of most others, he will see how much wasted effort we have saved. Good supervision is, as he says, important; our nursing advisers tell us that our plan gives it; all patients can be seen, most of them directly. A proportion, decided solely on medical grounds, who are in single rooms because their condition warrants it, can be seen through viewing windows. We are unwilling to accept any definite figure as to the number of patients which can best be cared for by a sister, or trained nurse. There is really no satisfactory evidence on this at present, and we await the forthcoming report of the Nuffield Hospital Job Analysis Team which will throw light on the matter. Meanwhile, most of the principles underlying our plan apply irrespective of the total number of beds it contains. We made no recommendations as to the number in the article in *The Builder*, though we hope to do so in our final Report.

On the question of lavatory provision for ambulant patients, may I refer Mr. Pite to Dr. Goodall's paper (*Lancet*, 1951, (i) 43). He will see that the provision we propose is not overdone but based on a survey of patients in acute hospitals at the present time. On the advice of the Building Research Station, the experimental wards are not mechanically ventilated.

One despairs of Mr. Hall; he appears determined to treat hospital research with hostility. If he had read the paper to which I referred him in my last letter, he would have found in it a detailed comparative analysis of ward planning in various countries, which I submit is of more value than reminiscences of personal travel. The danger of relying on merely personal memory is demonstrated by the story he tells about mobile beds in Stockholm. In fact, as he can easily verify, the mobile bed is now standard throughout Sweden and, nearer home is, of course, in use at St. Thomas's Hospital.

No one, not even himself, can really take seriously his suggestion that I put forward an *experimental* plan as a solution to all problems, the more so as this was expressly repudiated in the text of the article. Mr. Hall may not have had time to read the references I gave, in which he would have found answers to many of his points, but perhaps he might have read the original article with a little more care before launching into hasty criticism. In it I put forward for discussion six principles of ward planning, arising from our research, for which the two published plans served as examples. None of these principles has been seriously challenged by Mr. Hall, and we may therefore presume that he accepts them; they,

"Never mind, dear; let's wait and see what happens to the second London Plan."

of course, apply to teaching as well as to non-teaching hospitals.

Turning to matters of detail, my figure for ambulant patients may "sound excessive" to Mr. Hall, but this is a matter not of opinion but of medical statistics. He will find that the figure is correct if he refers to Dr. Goodall's paper in the *Lancet* referred to above, which deals with medical, gynæcological and obstetric wards, as well as surgical. I am surprised that he does not know that reinforced concrete bearing wall construction is highly blast-resistant—rather more so than normal frame building. It was used extensively for air-raid protection in the last war. Mr. Hall comments on several details in one of our plans; where his criticism is constructive, we have noted his points. A full report of the working of the experimental wards will be published in due course and, as always in experimental work, the proof of the pudding is in the eating.

I do not wish to take up too much of your space, Sir, but I cannot let pass unchallenged Mr. Hall's picture of the nursing profession as so complacent and conservative that they will only consider "very minor changes in organisation." It is, of course, an absurd picture. Those organisations and individuals in the profession who have given such unfailing interest and co-operation will greatly resent Mr. Hall's imputation that we are trying to introduce an inhuman system of nursing. The whole accent is, of course, in the opposite direction, towards a closer and more personal contact between the nurse and her patients.

Our proposals are not so revolutionary as Mr. Hall suggests, but if he believes that nurses and patients are satisfied to-day with the Florence Nightingale ward (however "modified" by an everlengthening tail of ancillary rooms) your readers who have been patients, or who have friends and relatives in the nursing profession will soon disabuse him.

R. Llewelyn Davies.

12, Mecklenburgh-square, W.C.1.

*** This correspondence must now end.—Ed.

RELATIVE COSTS OF "POINT" BLOCKS AND "SLAB" FLATS

To the Editor of *The Builder*

SIR,—In reply to Mr. L. G. Pearson's letter in your issue of January 4, I feel obliged to point out a basic misconception that lies behind his reasoning. The total number of dwellings to be provided on a given site is governed by the zoned density appropriate to the area in which it is situated. The density of the sites in Roehampton under discussion has been fixed at 28 dwellings or 100 persons per acre. It *is* possible to develop these sites with the "universally detested" five-storey "slab" flats mentioned by Mr. Pearson, but only by completely disregarding the natural features of the sites and cutting down practically all the fine trees. It is *not* possible, however, to develop wholly with the cheaper four-storey maisonettes for the simple reason that the requisite number of dwellings cannot be provided on the ground available. Only by planning a mixed development, where the use of 11-storey "point" blocks so opens up the site as to make room for a large proportion of maisonettes and houses, can the low cost of the latter types be exploited to balance the relatively high cost of the "point" flats, thereby producing an overall average cost per unit which is, if anything, lower than that of five-storey slab development. Reducing the number of tall blocks simply means that relatively less space is available for maisonettes and houses.

There is a further error in Mr. Pearson's letter to which attention should be drawn. He compares the cost of a 3-room flat in an 11-storey block directly with a 3-room maisonette. In fact, there are no 3-room maisonettes. The smaller flats of two and three rooms are contained in the "point" blocks and the larger units of four, five and six rooms in maisonettes and houses, thereby giving the bigger families the benefit of dwellings with individual gardens. This type of mixed development also gives a larger proportion of the site over to open space available for the common use of all tenants, something sadly lacking in estates planned with lower "slab" blocks at minimum spacing. The greater architectural interest arising from the grouping of blocks of various heights must be obvious to Mr. Pearson.

His reference to Mr. Gibson's statement that, in the experience of the L.C.C., the 5-storey flats are the most economical, applies to horizontal "slab" flats of varying heights. If the "point" blocks are scrapped, horizontal "slab" blocks would take their place and there would be no houses at all, few maisonettes, and most of the trees would have to be felled and the rural aspect of the district disappear. It is no use sympathising with me in my plight to rehouse 200,000 families unless such sympathy is accompanied by a gesture of sufficient dwellings.

In my view the Council has made such a gesture to the districts concerned, in the shape of "point flats," houses and maisonettes, and to the nation in the preservation of the national amenities, instead of building horizontal "slab" flats. These are the only alternatives.

Reginald Stamp,
Chairman of the L.C.C.
Housing Committee.

County Hall, S.E.1.

LOW-COST HOUSING

To the Editor of *The Builder*

SIR,—I have read with interest reports which have appeared recently in the daily Press referring to low-cost housing at Chatham, and would like to state that while these houses represent a notable achievement, a very wrong impression has been given to the community at large inasmuch that it is stated that Chatham are building streets of £1,000 houses, and in reality this is not so.

I was actually responsible to my employers for the erection and completion of the 44 houses referred to, and, in fact, prepared the original estimate, and as such was as proud of the achievement as my employers, the workmen, the local authority and all connected with the scheme. These houses, were, however, erected during 1950, and completion was obtained early in 1951 before very steep increases in the rates of labour and materials took place. Further houses built and building during 1951 will, due to these increases, have cost about £100 more each; the average cost of the houses is thus brought up to about £1,100 and not £1,000, as published.

As a member of the building industry, I bring these facts to your notice in order that disillusionment may be avoided and in fairness to other members of the industry who have, and are doing all in their power to bring about "low-ocst housing."

In some newspapers a comparison has been drawn between the cost of Chatham's 3-bedroom houses at £1,061 and the winning design in *The Builder* competition erected at Northampton at £1,083, but with Chatham houses having 34 sq. ft. more of floor area. To be fair to all connected with the winning design at Northampton, it should be generally made known that Northampton's houses were erected between June 11 and September 29, 1951, and subject to considerable increased costs, whereas the 44 Chatham houses were begun during 1950 and completed early in 1951, before these further increased costs took place. The comparison might, therefore, be more fairly drawn by Northampton at £1,083, and Chatham at £1,160, the latter houses having a floor area greater by 34 sq. ft.

F. W. Roots.

33, Rock-avenue,
Gillingham, Kent.

CASH SETTLEMENT DISCOUNT

To the Editor of *The Builder*

SIR,—From discussions which have taken place between our London area and representatives of the London Master Builders' Association, it would seem evident that some clarification and perhaps amended procedure is necessary with regard to the Cash Settlement Discount provided for builders under the R.I.B.A. Conditions of Contract.

Difficulties often arise because settlement terms for certain P.C. items are not always clearly specified as coming within the terms of the R.I.B.A. Form of Contract, and as a result quotations submitted by merchants vary. Some allow for the recognised 5 per cent., others for 2½ per cent. only (which may be their normal terms of business), whilst in certain cases for particular commodities strictly net figures are given.

Often the lowest figure, regardless of the settlement terms, is the most acceptable to the architect, and it is illogical and unfair that a merchant who quoted a figure which provided for the proper 5 per cent. should be placed at a disadvantage. From the builder's point of view, he may be faced with the difficulty and embarrassment of obtaining the 5 per cent., to which he is entitled, from his merchant if no provision was made for it in the original estimate. The merchant, too, is placed in an invidious position.

In view of the above facts, it is suggested that builders should, when asking for prices, make the position quite clear, which should serve to avoid the difficulties to both builders and builders' merchants arising out of the present unsatisfactory state of affairs.

V. J. Fanstone,
General Secretary.

Building Industry Distributors,
52-54, High Holborn,
London, W.C.1.

"EXPRESSION IN MODERN ARCHITECTURE"

Mr. Frederick Gibberd's Address to the RIBA

IN his address to the Royal Institute of British Architects on Tuesday on the subject of "Expression in Modern Architecture" (the President in the chair), Mr. Frederick Gibberd, F.R.I.B.A., A.M.P.T.I., said he took the term "Modern Architecture" to mean that contemporary building which sought to convey beauty by way of the use of the building, and of the construction of the building, rather than through the application of decorative devices from past architectural styles. Mr. Gibberd continued:

The word "expression" in connection with buildings is generally taken to mean what its appearance conveys to us, but to most architects "expression" means the æsthetic expression of individual buildings.

Gifted designers invent new forms in solving the functional and constructional problems. After the initial process of pure invention the task in design is the less spectacular one of refining the accepted solutions and assembling them in new ways.

That is the position to-day.

The first manifestations of a new style always tend to be crude. In the case of modern architecture they have been exceptionally insensitive because the scale has become so large, and because of the use of machines. The chief task that faces our profession to-day is to refine, and to assemble in new ways, the forms that modern architecture has given us.

In our present position of social upheaval the characteristic forms of modern architecture are being used without being understood; the superficialities of modern architecture are being applied to building in a crude and often barbarous manner—resulting in what has been called "modernistic design." Parallel with the development of modern architecture there has appeared a vulgar and pretentious building which has no more real affinity with modern architecture than it has with revivalism—and is inferior to either. The battle is not now between modern architecture and revivalism, but between modern architecture and modernistic or "jazzy" building.

It is necessary to test contemporary clichés and to see whether they have in fact their roots in the expression of function and construction; whether they are being applied in their right context; and whether they are as sensitive in form as possible. This we will now do with some typical modern details.

MODERN DETAILS

Expressing the Hole in the Load-Bearing Wall (See Diagram 1).

Let us take, to start with, a very elementary problem like placing a window in a load-bearing brick wall. How may we express the functional problem of supporting the brick over the opening?

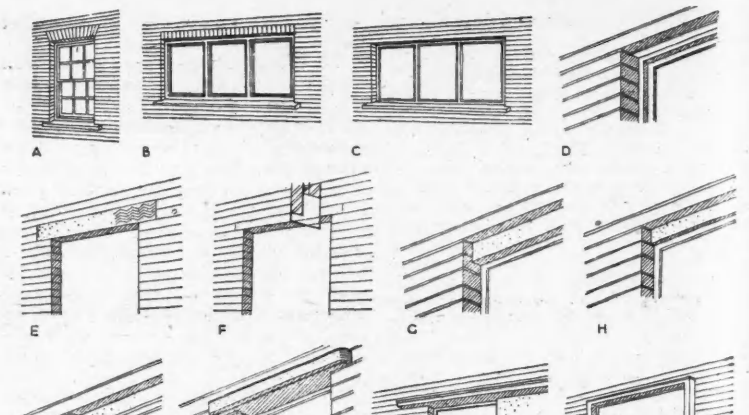


Fig. 1.—Expressing the hole in the load-bearing wall.

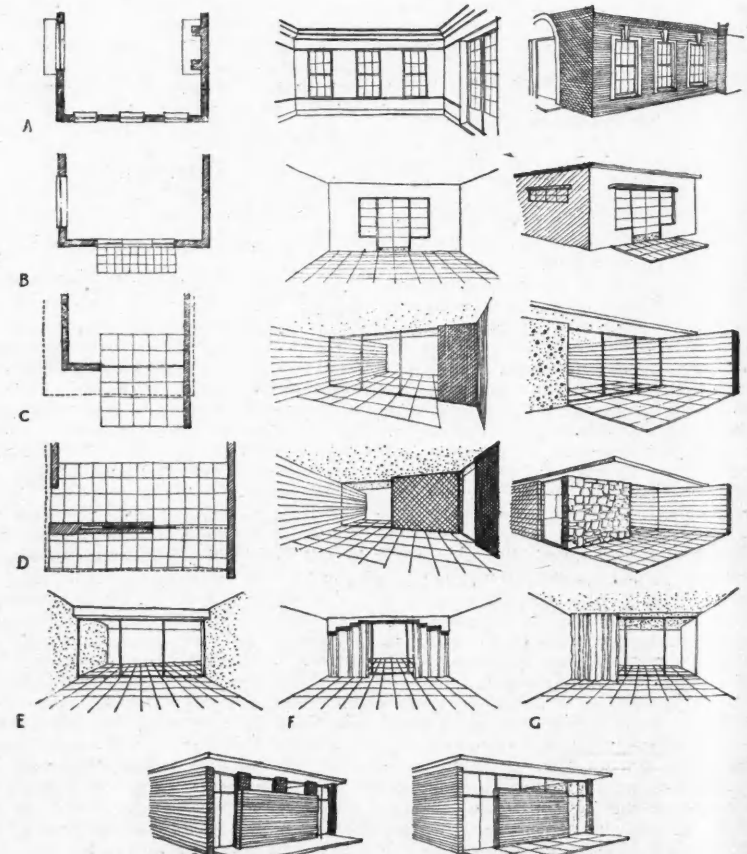


Fig. 2.—Expressing the wall as a flat plane.

The traditional solution is, of course, a brick arch—a simple structural solution that has from Wren onwards been given a most extraordinary diversity of æsthetic expression for so simple a device (A). With the pre-war small house or cottage, the brick arch changed to a row of bricks on edge partially supported by the window mullions (B). The contemporary metal or wood window is not designed to carry any load; if we see a row of bricks on edge over it we know they are not a lintol, but must in fact be themselves supported. What was once a decorative expression of construction is now only a decoration that makes construction more difficult. If we want the effect of a hole in a plain expanse of brickwork then we can get it quite simply by running the courses straight over the opening and supporting them on a steel angle iron (C).

This now accepted convention has a weakness when seen close to, because the bottom flange makes rather an indeterminate plane between a brick face and the window frame. A recent house by Davis and Moro carried the angle right round the opening to form a most attractive frame with a thin edge, but this is expensive, and moreover, steel is subject to rust. The obvious solution is to cover the angle by a wood sub-frame or lining, which may be carried right round the opening to underline its shape—a decorative expression evolved from a functional form (D).

The common method of bridging an opening to-day is, of course, by the reinforced concrete lintol. The purely functional engineer's solution (E) looks very clumsy and heavy.

The new form which has developed out of the problem of refining the concrete lintol is the boot lintol (F). This amounts to using the rear of the lintol to support the wall, and cutting back the front to a narrow band to support the facing bricks. (G) illustrates the first stage in its refinement to cut it back at the ends and put it behind the wall face to make it look more like a supporting "toe," which is what it is, and less like a lintol, which is what it is not. But (G) also shows two common faults: the "toe" is so deep that it both looks clumsy and conflicts with the brick courses; and the window is set back so far that the "boot" has a rather heavy square section.

(H) corrects the faults by making the lintol coincide with the brick course, and bringing the window forward so that the lintol is only a narrow band.

I don't much like the boot lintol, because it seems to conflict with the rectangular pattern of the opening. I prefer to use it with concrete or stone slips, down the sides to complete the pattern, as in (J). There are many instances where the boot is projected in front of the wall space to give the effect of a little hood over the window (K).

A square end to the lintol tends to look rather clumsy, and most people curve it back, as on the right hand side of the diagram; what looks to be perfectly horrid is just to carry it on past the window and stop it in an arbitrary way (L). Here is the point of departure from modern to modernistic design. As with the recessed boot, the lintol often looks best when it is

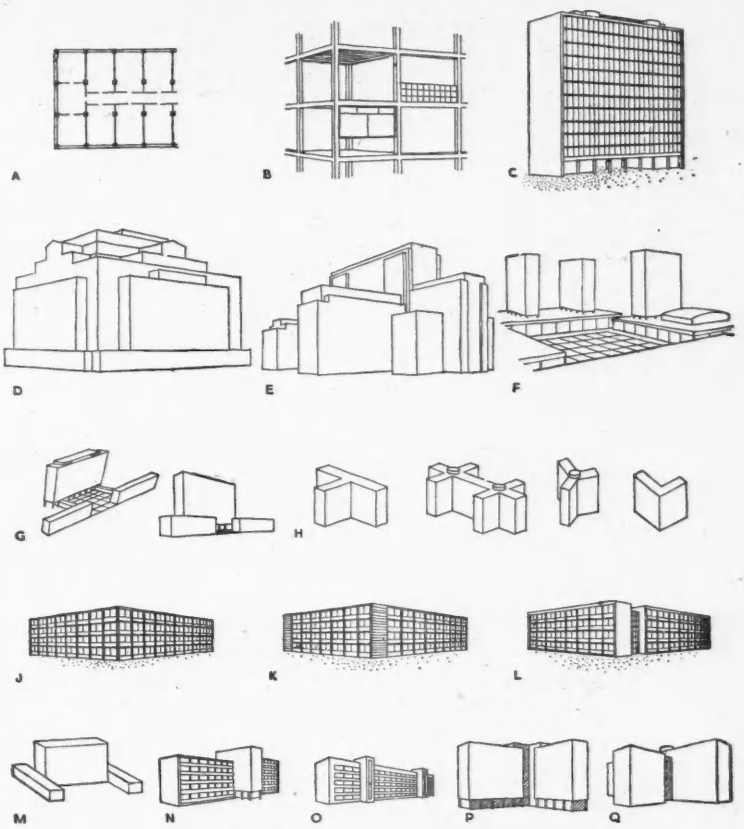


Fig. 3.—Expressing the multi-floor framed structure.

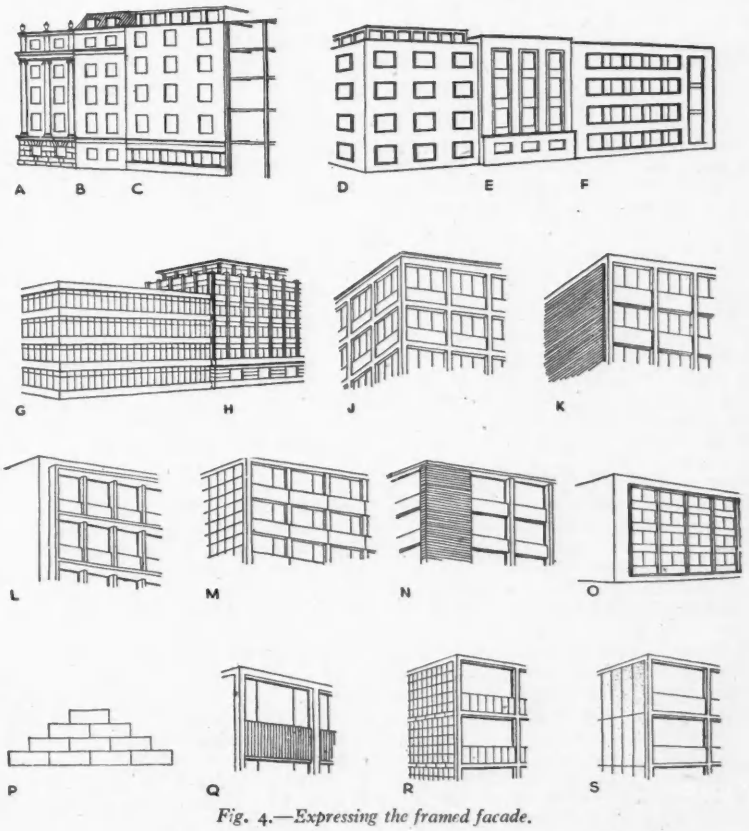
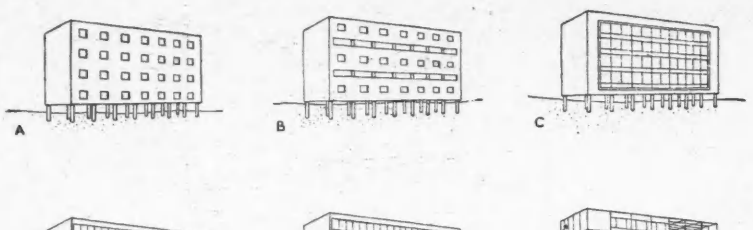
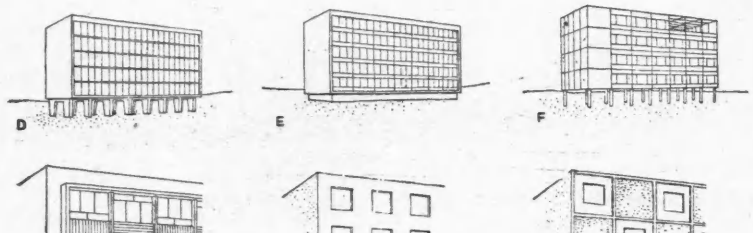
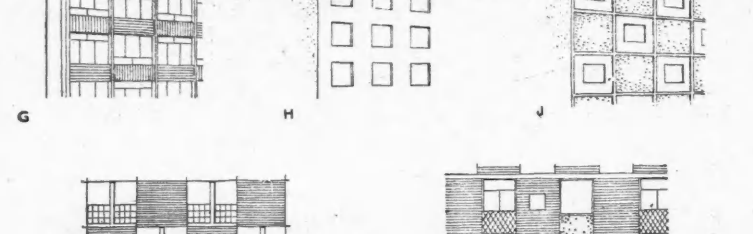


Fig. 4.—Expressing the framed facade.







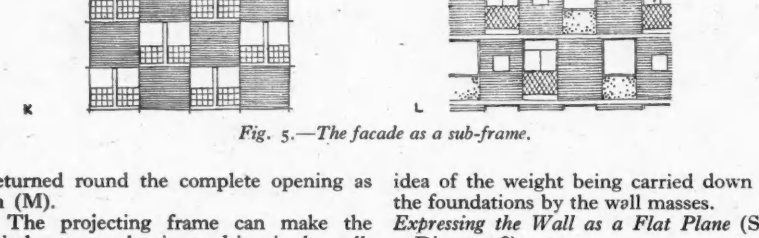


Fig. 5.—The facade as a sub-frame.

returned round the complete opening as in (M).

The projecting frame can make the window a very dominant object in the wall, and it is usual to reserve it for points of emphasis or punctuation. My inclination is to place the window on the front face so that one has a good deep cill inside the frame (N).

There is a special case in which the window might be set at the back of the surround, and this is where the cill is used to support the flower box, as in (O). The usual 2¼ in. set-back is perfectly adequate for the usual cavity wall. Concrete linings are often used to set windows deep, but they tend to exaggerate the opening too much for normal circumstances; the eighteenth-century trick of rendering and painting the reveal is the obvious solution, or alternatively a thin material might be used.

In any event, I always reduce the width of the projection as in (P), as apart from making the surround less clumsy it enables a recession to be made between the brick face and the concrete projection.

Supposing now the brick wall is rendered, then the obvious way of treating the opening is to carry the rendering over the lintol to form one continuous wall plane. The traditional detail, which I have tried to show in (Q) has the plaster slightly brought out over the window head to form a drip.

Sketch (R) shows one traditional method of treating the opening which is quite clearly a rendering technique. It amounts to forming a smooth cement band round the window and painting it a different colour from the wall.

When we come to arrange the openings in a load-bearing wall we do so as a balanced pattern that doesn't confuse the idea of the weight being carried down to the foundations by the wall masses.

Expressing the Wall as a Flat Plane (See Diagram 2).

One of the characteristics of modern architecture is the juxtaposition of wall and window for the complete height of a room, and with it the idea of the wall as a flat vertical plane. The complete expression of the wall as a plane is, of course, bound up with the contemporary open plan.

Diagram 2 illustrates some simple points on the use of the wall as a flat plane.

(A) shows the traditional box-like room.

THE MODERNISTIC ROOM

(B) shows the modernistic room: the ceiling has become lower and the proportions have become more horizontal. (C) illustrates the room surrounded by flat planes: the window is brought into juxtaposition with the wall; it extends to the ceiling; and the wall itself stretches out into the garden. The wall is no longer one side of a cube, as in the two previous examples, but a flat vertical plane.

In the next sketch (D) another window is juxtaposed with the front wall so that the wall becomes a plane with space around all its faces. When the wall planes are of different materials the idea of a room being a mere sub-division of a larger space finds it most complete expression. Instead of being surrounded by continuous walls at right angles to each other, and knit together by the lines of the skirting and cornice, we have a series of planes each complete in itself, but held in space by the roof and floor planes.

If you do isolate walls in this way it is important that you do the job properly. For example, if a lintol is necessary to support the roof, as in the next sketch (E), it disturbs the flat roof plane. So important is it that there should not be a connection between the two wall planes that even a pelmet board may ruin the effect (F). In America it is possible to buy a curtain track which can be built into the plaster, and which has a slide fitting which holds the curtain tightly against the ceiling (G)—an example of a mechanical device being invented to solve an æsthetic problem.

If external walls are held apart in space in a horizontal direction, why should not the roof be parted from the wall, so that it, too, floats as a plane, as in (H)? There is no reason whatsoever, providing always that the wall really is independent of the roof. The floating roof needs supporting columns. To build piers in different coloured bricks, as in (J), is a decadent decorative device.

LARGE BUILDINGS

Expressing the Multi-Floor Framed Structure (See Diagram 3).

I should now, by way of comparison, like to switch to the expression of the function, and of the construction, of multi-storey framed buildings. Since there are so many kinds, we will narrow down our inquiry to a simple office block.

In its simplest possible terms, the functional requirement is a well lit and adequately warmed space, of rectangular shape and free from obstruction. The width of the building is restricted by the natural lighting and cannot be more than the depth of two offices plus the central corridor (A). The external elements (shown in B) are: the floor slab; the window, which stretches from column to column so that the lighting is as even as possible; a panel under the windows to hide the legs of the typists; and finally, the structural frame holding these elements in space. The resultant building is a tall, wide, but narrow structure, like a book on edge. The long facades will be a geometric grid of windows and panels, and the end facades (since no light is needed through them) will be a blank wall (C).

The old form is shown in (D). The composition builds up from a broad base by a series of set-backs into a pyramidal form. It is an expression neither of a constant office depth nor of a steel frame—imagine building the corners in steel.

We cannot afford the Renaissance box of tricks these days, but the desire to produce a pyramidal mass-like form is still an obsession with many architects. (E) shows one of the typical forms this produces.

Now most office buildings require some large, deep meeting-rooms, which may be placed on the ground floor in horizontal form. Apart from the splendid opportunities this assembly gives for architectural composition, it is of great significance in town design, as it enables two types of spatial composition to be achieved: the building standing in space, as a plastic composition; and the enclosed urban space, formed by grouping buildings together. (F) illustrates the principle.

When the site is developed in depth it may be possible to assemble the accommodation as a series of slabs as in (G) (based on a technical college I am building). However, many buildings will need to be

developed with wings, such as the L, the Y, and the cruciform plan types (H).

The danger with these assemblies is that unless the office-like character of the wings is preserved they may easily indicate a deep or a massive building. For example, if the building is of an L shape and the facade pattern is carried straight round the external angle as in (J) the effect is often of a building with great depth. But if the individual wings are expressed, say, by making a blank wall for the depth of one wing as in (K), or by keeping the wings apart as in (L), then the way the building works is made quite clear.

JOINING THE WINGS

It is surprising the varieties of abuse of form that take place with the junctions of the wings. I have seen one block just placed across the end of another, as in (M), giving the impression that it will slide away any moment; or one block charging into another, as in (N); or, again, a long facade broken by violent vertical features, as in (O).

It is nearly always necessary to introduce a negative form between the wings to prevent the facade patterns coming into conflict. There are all kinds of solutions; (P) and (Q) are obvious.

Expressing the Framed Facade (See Diagram 4).

We will now consider some of the more typical elevations that have been evolved for the framed office building. The members are very few: the floor slab, the column and beam, the window and the panel. Which of these elements do we express?

The "Classic" revival disguise (A) is now out of fashion, but the "shorn Classic" (B) or the "Classic-modernistic" (C) are still favoured when a dignified effect is sought.

(B) gets some more floor space by adding a mansard, but sheds the classic trappings. (C) is an improvement as the windows indicate the even floor height, but they are a "hole in the wall" rather than a frame expression. A single pattern of wide rectangular windows as in (D) is a better expression than the previous examples.

The windows may be joined together vertically by panels of, say, cast iron between them as in (E). This is a favourite expression for telephone exchanges—I have not the least idea why. (F) joins the windows horizontally by continuing the lintol and the cill and using a different coloured brick between them—the very popular ham sandwich style. All are, I think, unimaginative and feeble.

There were many buildings erected before the war that gave recognition to the column and the wide almost continuous window. The majority of them seemed of two distinct types of expression; one based on horizontal emphasis, the other on vertical emphasis. In the horizontal type the windows pass in front of the column, or are clipped to its face, and the walls are treated as continuous panels supported by the beams. We thus have alternating horizontal ribbons of wall and window, as in (G). With the vertical type (H), the columns are exposed on three sides and run straight up for the full height of the building. The horizontal type tended to be used for long low buildings, the vertical for tall ones. A functional expression of the framed office is shown in my next sketch (J). (K) shows some refinements. First, the grid of the facade is contrasted by a blank end wall—a point I have already made. Then the brick panel wall is carried on a nib hung from the floor beam (the boot lintol again). This makes the columns slightly more emphatic in their verticality, and sets up an even rhythm across the facade. The proportion of the panel counteracts the upward thrust of the columns, and there is a regular vertical rhythm between panel and window.

To what extent you express the column, the floor or the panel, doesn't, I suppose, matter a scrap, providing that the pattern is reasonably balanced. In (L) the floor slab is brought forward; it has the disadvantage that it provides long ledges for the dust to rest on, and calls for flashing. And in (M) the panel passes in front of the column, but its horizontality is counteracted by the joint lines on the column centres.

In the next sketch (N) the blank end wall is brought to the front facade, and a window placed on the end—as when a staircase is placed in the corner. This is a combination of the wall as a flat plane with the framed facade—a combination which needs very careful handling.

This is counteracted when the wall is carried up and returned as a parapet with its own coping, as in (O). The parapet has its counterpart in a brick base, the complete building thus being framed. This is one of the most typical clichés of contemporary design—a geometric grid of window column and panel, framed in a blank wall.

As has been said many times, the wall of a framed structure is only a skin to afford protection against weather. Because of their excellent weathering qualities, many frames are clad in brick or stone.

As (P) tries to show, the staggered perpends appear to carry the weight down to the ground. The purist designing a brick panel wall is likely therefore to use a bond which avoids a pyramidal pattern, such as a herring-bone or brick-on-end, like (Q).

PANEL WALLS

Although stone is bonded into a brick backing in many framed buildings, this is obviously less economical than applying it in slab form. Most designers use a plain rectangular pattern for panel walls, as shown in (R), as this is furthest removed from solid block patterns.

(S) shows vertical units on an end wall.

The Facade as a Sub-Frame (See Diagram 5).

The most complete expression of the skin takes place when the window plane is identified with the wall plane; for example, when the whole facade is treated as an overall lattice in which are inserted glass or wall panels as necessary (D). The all-glass facade is the extreme example.

The facade can become a light and elegant structure—but alas, how expensive it can be, and how few materials we have to make it from!

A framed structure gives the maximum opportunity for letting the external space penetrate the building. This happens most frequently at the ground-floor level. This is left open, or only lightly enclosed by screens, so that the building appears to stand on columns.

THE USE OF COLUMNS

Whether we have a practical justification or not for raising the building on columns, there is no doubt that the device can give extraordinary grace to the building through floating it in space, and no doubt that it alone can be made to express the structural system. Consider, for example, (A). This is meant to represent the corridor side of a framed building; the wall with its tiny openings expresses a load-bearing function, but the open ground floor and exposed columns make it clear that the building must be a rigid frame.

The same effect has been obtained on the upper floors, where a long gallery or window cuts across the building, revealing the columns for a floor height. The gallery in a block of maisonettes is sometimes handled in this same way (B).

(D) shows a common variation in which there is even greater dissociation between the superstructure and the grid. (E) lowers the building quite close to the ground, and although the spatial interpenetration is lost the facade is still cut off from the ground, and the walls tend to float. (F) shows part of the top floor exposed.

When the framed facade has a pattern based on a rectangular grid, there is generally an even horizontal progression across the facade between the columns, or mullions, and an even vertical progression between the windows and panels. If, within the confines of this frame, these two patterns cancel each other out, the total pattern is a balanced one. But in such a balanced pattern the eye also tends to move diagonally across the facade from corner to corner and, speaking very generally, the more rhythms set up across the facade, the more balanced will the pattern be.

You are all acquainted with the South American use of the brise-soleil, and the fascinating and lively patterns that have been made with concrete fins and ceramic tiles. It would be absurd to try to reproduce the brise-soleil patterns in this country, but nevertheless the basic idea of setting up rhythms by contrasting adjacent units within the facade is being pursued, as in (G). In a building type that does not need very wide windows and one where room types are repeated, there are all kinds of possibilities. With a load-bearing wall the windows are placed above each other so that the loads are concentrated on to piers between them (H), but if the load is taken by a frame the windows can alternate (J).

Tecton in their Paddington scheme alternate windows framed with the columns (K), and in some flats under construction in St. Pancras I alternate bedroom and living-room windows and set up a minor pattern by small windows set in the brick panels (L).

By such contrasts of texture and pattern we move away from the purely functional diagrammatic facade to an æsthetic expression as pictorially interesting as those obtained by dressing up the frame in the trappings of revivalism and far more satisfying, because they have been evolved from the expression of construction and the expression of function.

THE REBUILDING OF THE CITY OF LONDON

A Paper Read at the R.I.C.S.

TWO interesting accounts of the problems confronting the City of London Corporation when it was faced with the task of rebuilding after the Great Fire of 1666 and the work of reconstruction after the second world war, were given before the Royal Institution of Chartered Surveyors on December 3. The papers were prepared by MR. T. F. REDDAWAY, M.A., F.S.A., F.R.Hist.S., who described the situation after the Great Fire and MR. KENNETH MARR-JOHNSON, F.R.I.C.S., who dealt with the City's problems to-day.

Referring briefly to all the normal measures for immediate relief which were adopted without delay in 1666, Mr. Reddaway remarked that they need not concern his audience that night, but he thought the long-term measures did concern them and it was here that 1666 and 1946 so largely parted company. The first had suffered swift and grievous loss to a relatively primitive economy, but provided that it had the gold, the silver or the credit, it could repair its losses by drawing on the labour and the materials of all England, with generous supplements from the Continent.

In 1946, after six years of sporadic destruction and when the resources of most of the world had been mortgaged, this country had to begin simultaneously the reconstruction of its economy and the redemption of its debts. Both demanded the obliteration of local initiative in favour of the carefully devised restrictions for an overall plan. Centralisation was the modern key to Pandora's box, he said. In 1666 the only key was localism.

The Position To-day

At the outset of the second paper, Mr. Marr-Johnson gave a brief summary of the conditions of 1939 and pointed out that the City's main defect was its serious traffic blockages and delays. These, he said, were caused partly by the huge daily flow of office workers, but partly also by through traffic, particularly that to and from the docks and the railway termini. He went on:

In the latter part of 1940 and early 1941 the City was seriously damaged in air raids, mainly by fire. About one-third of its total floor space was destroyed, which resulted in a loss to the Corporation of some £2 million worth of rateable value. The Guildhall, 30 churches and a number of Livery Companies' halls were burnt out. The damage was not, however, in one continuous area, because most of the modern buildings withstood the fires, but was concentrated in five principal areas. The banking and insurance area in general survived, as did St. Paul's Cathedral and the fringes of the principal streets, of which Cheapside and St. Paul's Churchyard are good examples. The largest areas of devastation lie to the north and east of St. Paul's, and north of Cheapside extending to the City boundary and beyond.

On the cessation of the heavy raids in 1941, the public was quick to see the opportunities for improvement. A number of unofficial plans were produced which, in the main, concerned themselves with the desirability of providing wide open spaces round public monuments, and paid scant regard to the importance of the City as a business centre. Nonetheless, it was clear that a great opportunity had been given for doing something in this respect, also for improving the traffic flow and erecting buildings better suited to present needs.

In 1944 the Corporation issued a proposed plan which was considered both by the public and in government circles at that time as timid and ineffectual, since it was confined principally to road widenings and enlarged junctions; moreover it was not designed with regard to the proposed planning of the remainder of London by which the City is surrounded. Meanwhile, Sir Patrick Abercrombie and Mr. J. H. Forshaw had produced their plan for the County of London (1943), and the former published his Greater London Plan a year later. His proposals included a substantial reduction in the population of London, and the transfer of a proportion of its business to New Towns.

On the instructions of the Corporation, Dr. Holden and Professor Holford prepared their now famous plan which was published in 1947 and has now been formally adopted. It covers not only the war-damaged areas but the whole city, and consequently a number of its proposals necessarily look rather far ahead.

L.C.C. Control

Just as the population of the country has increased so spectacularly since the seventeenth century, so has the structure of central and local government. The King no longer acts on his own authority, or through the Privy Council, but Parliament acts by a number of ministers who control a series of government departments. Those normally concerned in the rebuilding of the City are the Ministry of Housing and Local Government, Ministry of Works, Ministry of Transport, the Board of Trade, the War Damage Commission, the Central Land Board and the Inland Revenue (Valuation Office). It is unnecessary to remind surveyors of their respective functions, or of the general provisions of the War Damage Acts, the Town and Country Planning Act, 1947, and the other principal statutes concerned. The City Corporation retains its powers and duties to produce and administer the plan, but since 1947 this is subject to an overriding control by the London County Council, who are responsible for the remainder of London. The London County Council also have extensive control over building construction through a code of regulations under the powers of the London Building Acts.

So far the Corporation has obtained the consent of the Minister to its plan in principle, though many of the proposals are still unresolved in detail. It has "designated" the five main areas of war damage under the 1947 Act. The broad effect of this is that the Corporation is given the power within the next 20 years to buy any part of these areas and relet it on building lease to developers.

Existing Modern Buildings

One of the main difficulties in the way of an early realisation of the plan is the continued existence of a number of modern buildings standing on the projected sites of street widenings and open spaces. Their value is so great that to pull them down within the next 20 to 30 years would entail an unreasonable loss both of money and of valuable floor space at a time when there is such a shortage. There are numbers of semi-derelict buildings in similar positions. The Corporation has shown a marked reluctance to consent to building licences for the reinstatement of such buildings. This is understandable from their point of view, but irritating to occupiers who are anxious to bring back into use much-needed floor space.

The owner of a vacant site in the city to-day is likely to find himself in a quandary similar to that in which his predecessor was placed after 1666. It is true that he starts with one great advantage, in that he will have received, or be enitled to receive, a substantial War Damage payment for the building which he has lost. But he will have had no income from his site for over 10 years, and he has to decide whether to hold the site for future development (and possibly increase his holding), try to sell it in the open market, or invoke Clause 19 of the 1947 Act if the site is within the Designated Area.

Referring to Mr. Reddaway's paper, Mr. Marr-Johnson said that by the end of 1671 the City was well on the way to recovery through the determined activity of its citizens with the help of very limited municipal resources and under the guidance of a very simple form of planning authority. To-day the City's problems merged in those of the country as a whole. The potential resources for rebuilding were greater, but the administrative machine which had been evolved for the sake of ensuring that everything was done better than before was so elaborate that there was danger of delays seriously hampering progress.

There was no doubt that the City's vitality remained unimpaired, and that it could both maintain and increase its trade, given the buildings in which to work. There was equally no doubt that most of its activities were closely interdependent and could not be carried on elsewhere. The rate of building was ultimately in the hands of the public.

OBITUARY

Robert Angell, L.R.I.B.A.

We regret to announce the death, on January 2, of Mr. Robert Angell, L.R.I.B.A., of 38, Portland-place, W.1, and Ratton Village, Willingdon. He was 79.

In his younger days Mr. Angell entered a number of competitions, and was successful (in partnership) in that for Weymouth Hotel, in 1897, and for Workmen's Dwellings, Sunderland, in the same year. His numerous works include:—City office buildings: Cathedral House, Paternoster-row, 1911; Equitable House, King William-street, 1913; New Bridge-street House, 1914. West End business premises: Ancaster House, Cranbourn-street, 1908; Devon House, Tennyson House and Marcol House, all in Great Portland-street, 1911-12. London offices and showrooms: The North British Rubber Co., 1910; the Birmingham Small Arms Co., 1920; the Avon India Rubber Co., 1920; the Sunbeam Motor Car Co., 1920. Factories: Carl Zeiss of Jena, Mill Hill, 1910; S. Smith and Sons (M.A.), Ltd., Central Works, Cricklewood, 1915-18. He was also responsible for residential flats and premises in Wigmore-street and Orchard-street, W.1. He was at one time in partnership with Mr. G. Blair Imrie.

Edward White, V.M.H., P-P.I.L.A.

We regret to announce the death, on January 6, of Mr. Edward White, V.M.H., president of the Institute of Landscape Architects from 1931 to 1933. He was 79.

THE DESIGN OF HEALTH CENTRES

The Nuffield Trust Report

THE report of the Nuffield Provincial Hospitals Trust for 1948–51 (to which reference was made in our issue of November 30, when illustrations and a description were given of the design for a hospital ward block at Greenock, by Mr. Richard Llewelyn Davies, M.A., A.R.I.B.A., Architect to the Trust) contains a section on Health Centres—buildings which, under the National Health Service Act, were intended to bring together the services of general practitioner, local health authority and hospital specialist. Recently the idea of health centres has suffered a decline in popularity; in part, it is thought, to differing opinions about what they should be, in part to the general practitioners' individualistic preference for "courteous" competition, and also, possibly, owing to the absence of working examples to judge by.

The Nuffield Trust has carried out three experiments, designed to fit and serve a local need and at the same time to test and demonstrate various conceptions of a health centre. These are as follows: (1) a teaching health centre attached to the medical school of the University of Manchester, designed eventually to introduce medical undergraduates to the kind of work and patients met with in general practice; (2) a diagnostic health centre (with, in addition, beds for maternity and for general-practitioner care of patients) to serve the new town of Corby in Northamptonshire; and (3) a simple type of health centre for one part of the new town of Harlow, Essex, whereby the Corporation can "discourage the start of individual practices in separate houses" until ultimately larger and more elaborate centres can be built (if, indeed, centres prove to be preferable).

Of these experiments the one at Manchester is to be conducted in converted premises; the diagnostic centre at Corby will require a building specially designed and constructed for the purpose; while the one at Harlow will use a new building, basically two semi-detached houses, which could be converted back to housing if necessary.

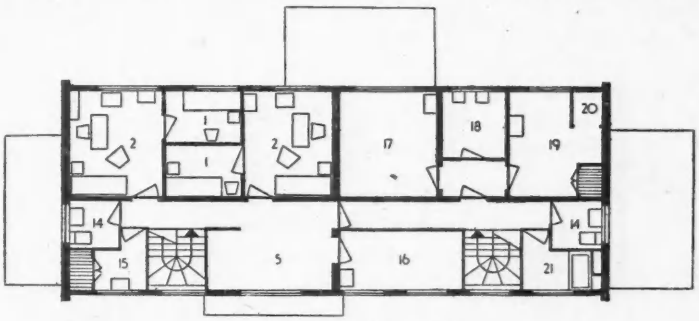
DETAILS OF THE SCHEMES

The experimental health centre at Manchester will be housed in Darbishire House, Chorlton-on-Medlock, adapted before handing over to the University according to plans prepared by Mr. Leonard C. Howitt, B.Arch., F.R.I.B.A., City Architect. The Nuffield Trust and the Rockefeller Foundation of America have promised grants of £30,000 each for this scheme. Here the general practitioners of a dense urban area will practise, local authority clinics will be run, and the medical school will have the opportunity both of studying social medicine and of teaching "general practitioner" as opposed to "hospital" medicine to medical undergraduates.

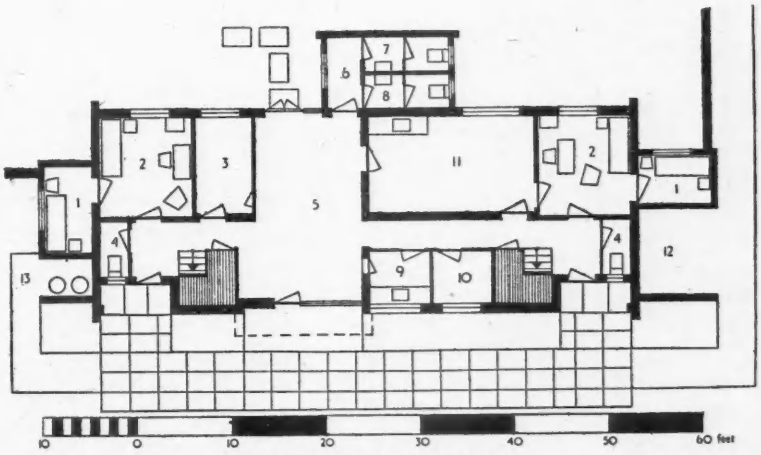
Corby is a town which has expanded rapidly from a village of 1,500 people in 1931 to its present estimated population of 15,000. In further development, under the New Towns Development Order, the population will probably be increased during the next ten years to 40,000. The plans for the Diagnostic Centre, which have been prepared by Mr. Richard Llewelyn Davies, M.A., A.R.I.B.A., include examination and treatment rooms to be used by the general practitioners and also by the hospital service as a consultant out-patient department; a small laboratory; chest clinic and X-ray and physiotherapy departments; and a dental suite. The second stage of development will be the erection by the Regional Hospital Board of a maternity-bed unit for normal cases. Later there will be provided general-practitioner beds and local health authority clinics. For these purposes a site of five acres has been reserved half a mile west of the New Town centre, adjoining a main road, and well placed to serve the future development of Corby.

THE HARLOW EXPERIMENT

The new town of Harlow, Essex, is developing rapidly. Its present (new) population is about 3,000, and elaborate plans have been prepared by the Essex County Council for four large health centres, providing both clinic and general-practitioner services for an ultimate population of 80,000. These cannot, however, be built yet, and the Development Corporation has decided to redesign two semi-detached houses to serve temporarily as a simple experimental health centre. As the Corporation will lose the subsidy on these houses if they are not let to ordinary tenants, and must carry out its operations without financial loss, the Trust felt that the experiment was a useful one for gathering information which would be valuable in its other work elsewhere, and has therefore made a grant of £2,200. Building has started, and will be completed shortly. The plans are by Maxwell Fry and Jane Drew, FF.R.I.B.A. The interest of the scheme is that, origin-



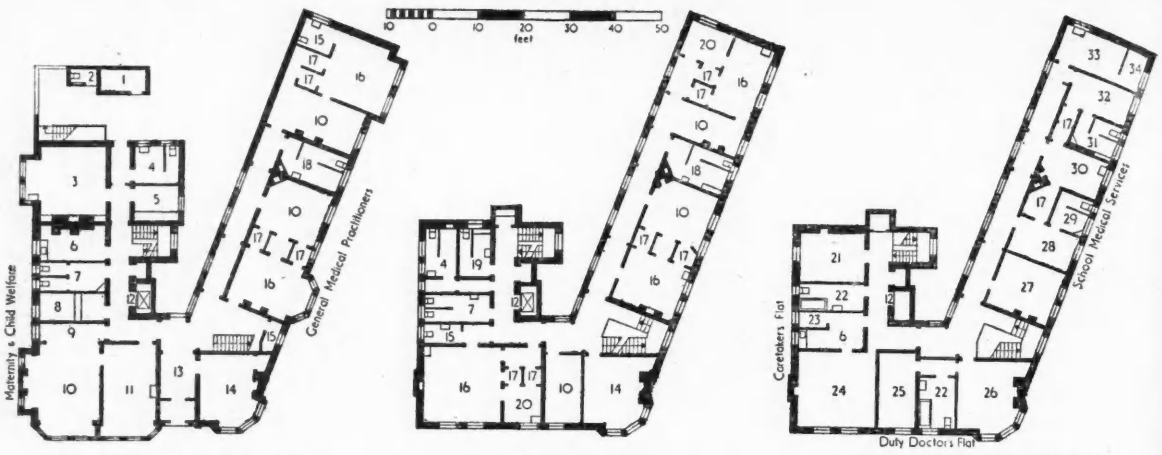
FIRST FLOOR PLAN



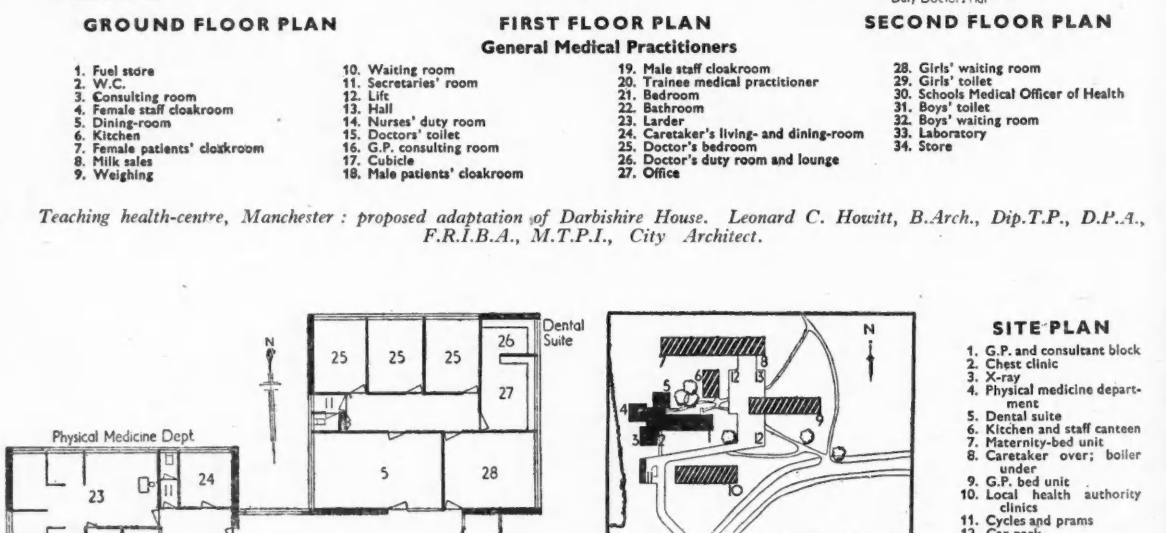
GROUND FLOOR PLAN

1. Examination
2. Consulting room
3. Office
4. W.C.
5. Waiting room
6. Lobby
7. Women's toilet
8. Men's toilet
9. Kitchenette
10. Nurses or cleaners
11. Weighing and neo-natal
12. Pram shed
13. Dust bins
14. W.C. and lavatory
15. Clinical side-room
16. Minor ailments and consulting
17. Main dental surgery
18. Dental mechanics' room
19. Subsidiary dental surgery with X-ray
20. Dark room
21. Cleansing room

Simple health-centre, Harlow New Town. Maxwell Fry and Jane Drew, FF.R.I.B.A., architects.



Teaching health-centre, Manchester : proposed adaptation of Darbishire House. Leonard C. Howitt, B.Arch., Dip.T.P., D.P.A., F.R.I.B.A., M.T.P.I., City Architect.



Proposed diagnostic centre, Corby. R. L. Davies, M.A., A.R.I.B.A. (director and architect, investigation into the functions and design of hospitals, Nuffield Provincial Hospitals Trust), architect.

ating in a newly built town without general practitioner provision, it will (*a*) discourage general practitioners from building up private surgeries from the very outset and will give them instead the advantage of clinical co-operation with each other and with the clinic services ; and (*b*) have considerable experimental value in showing how a small health centre can be administered and at what cost, and whether a number of such centres would be more generally welcomed than one large one involving the patient in travelling longer distances.

The report is obtainable from the offices of the Trust at 12 and 13, Mecklenburgh-square, London, W.C.1.

G. J. H.

Quantity Surveyor Under a Building Contract

Conditions Governing His Appointment, Duties and Payment: Implications of the R.I.B.A. Standard Form

By NORMAN P. GREIG, BA, Barrister-at-Law, Hon.FIQS, FIArb., etc.

THE architect's authority to appoint a quantity surveyor is either expressed or implied, provided the necessity for such an appointment exists at all. In the main, as it is not always advisable for the architect to take off quantities personally, a quantity surveyor will be appointed in all contracts of any magnitude. When an architect receives authority to obtain tenders, and it is obviously impracticable to do so without bills of quantities, the appointment of a quantity surveyor can be implied and, in this connection, in the *Birdseye v. Dover Harbour Board Commissioners* [1881] case, it was said that it is a custom of the building trade for an architect to call in a quantity surveyor, in all works costing £2,000 or over, at the employer's expense.*

Let it be clearly understood that in such a case, the architect, as the agent of the employer, should acquaint his principal of the fact that the services of a quantity surveyor will be necessary, and that, however he be paid in the first instance, the expense will, in the end, fall upon the employer. Under the R.I.B.A. Standard Form (as it stands) the appointment of the quantity surveyor is assumed, and provision made for the appointment of his successor in case of death or ceasing to be surveyor. In such case, the contractor has the right to object to the nomination of the successor by the employer or the architect, and his reasons are, in case of dispute, subject to arbitration under Clause 26.

Duties of the Quantity Surveyor.—In many building contracts, including the R.I.B.A. Standard Forms, the duties of the quantity surveyor are to prepare the quantities and measure and value variations (i.e. extras and omissions); but a building contract can allocate other duties to him in addition to the above. It is considered by many surveyors that the proper and convenient time to appoint the quantity surveyor is in the early stages of the project, so that he will be in a position to tender advice to the employer on the matter in hand, particularly from the business angle, for which, it is claimed, he is better trained than the architect himself who (such is the argument) should be more concerned with the creative part of the enterprise, i.e. the designs. Without presuming to express an opinion on such a matter, it should be made clear that the architect should inform the employer, at an early opportunity, that additional expense will be necessitated by the early appointment of the quantity surveyor. The above procedure, it is suggested, will tend to put the status of the surveyor more on a par with that of the architect, rather than regarding the former as a mere appendage to the building contract.

* The National Federation of Building Trades Employers now permits its members to tender in competition without quantities only for buildings estimated to cost less than £3,000.

AN ESTABLISHED CUSTOM

Payment of the quantity surveyor.—It is evident that, once the appointment has been decided upon, the services of the quantity surveyor must be paid for eventually by the person who is benefiting by them, i.e. the employer; though, in the first instance, the payment is made by another. So, in *North v. Bassett* [1892], evidence was given to the court that, by the usage of the building trade, a contractor whose tender is accepted is liable in the first instance to the quantity surveyor for the amount due for taking off the quantities. On the other hand, if no tender is accepted, the employer or the architect is liable; and it was held that such custom is both reasonable and valid. From this case it is clear that where no authorisation, express or implied, was given to the architect to employ the services of the quantity surveyor, the architect must pay for them himself. That this usage or custom does exist is made clear (as far as England and Wales are concerned) by many other cases. *North v. Bassett*, however, is no authority in regard to the various services for which the quantity surveyor is to be paid, but only for the method of payment; hence both these matters can be arranged for under the contract itself, and should so be.

Let it be repeated that it is always advisable for the architect to make it perfectly clear to the employer those services for which the latter will have to pay, and so avoid a protest, at the end of the job, that the employer is being called upon to pay fees that were not expected or even, in some cases, that he is paying twice.

THREE MAIN DUTIES

The R.I.B.A. Standard Form.—The position of the quantity surveyor under this form is as follows. There are three duties specially mentioned as falling within his province, viz.: (1) Preparing the quantities. (2) He is to measure and value all variations that have been authorised in writing by the architect or subsequently sanctioned by him in writing and, at the time of measurement, he must give the contractor an opportunity of being present and of taking such notes and measurements as he, the contractor, may require. The contractor is entitled to be supplied with a copy of the priced bills of variations not later than the end of the period of final measurement stated in the appendix to the Conditions, and before the date of the architect's certificate in respect of such variation (Clause 9). The clause also contains the rules that are to apply to the valuation, if the matter be not previously or otherwise agreed: (*a*) The prices in the original priced bills are to determine the valuation of extra work of similar character and under similar conditions as the original priced work; (*b*) if not, those prices are to be used as a basis, as may be reasonable, for making a fair valuation; and (*c*) when the extra work cannot properly be measured and valued, either at any rates inserted by the contractor in the bills of quantities or the form of tender, or, if none, at the rates stated in the (last) schedule of daywork charges (July, 1950), or, where rates have been agreed upon between the R.I.C.S. and the National Federation of Building Trades Employers, according to those rates. (3) In regard to nominated suppliers, where, in the opinion of the architect, the contractor has incurred expense for special packing or special carriage, the architect is to inform the surveyor who is to allow for the same as part of the sum actually paid by the contractor (Clause 22(*a*)).

PAYMENT OF FEES

The payment to the quantity surveyor is provided by Clause 10, which gives alternatives, viz.: He is to be paid by the contractor, immediately after the latter has received the amount of the certificate in which they are included, the fees for preparing the bills of quantities and any expenses mentioned therein; while the fees for measuring and valuing variations are to be included in the last certificate but one and paid to the surveyor immediately after the certificate has been met. (Alternative A.)

On the other hand, if so agreed, the employer can pay the surveyor direct for both services mentioned above. (Alternative B.)

Valuations for Certificates of the Architect.—Clause 24(*a*) of the R.I.B.A. Form provides for the giving of an interim certificate by the architect, but the clause does not say who is to make the valuation, nor does it make any provision for paying the fees of a quantity surveyor for that purpose should the architect employ one. It is suggested that it is the intention that the surveyor nominated to prepare the bills of quantities and measure up the variations (i.e., the surveyor under the contract) is also intended to measure for interim certificates, as well as value them. But as there is no provision as to this matter it can equally well be argued that the architect must value for interim certificates himself (if he considers the valuations necessary, says the clause), or himself employ, and pay for, a surveyor to do the work. It would therefore appear that, unless this duty is one included among those mentioned in a personal contract of service with the quantity surveyor, he can only claim for the matters included in Clause 10. It is common knowledge, of course, that almost invariably the certificates of the architect are based upon information supplied by the surveyor, and no one supposes that the quantity surveyor gives his services gratuitously. The implication, therefore, is that the employer will meet the fees; hence, the position with regard to them should be, it is suggested, clearly laid before the person who eventually pays, that is the employer.

In this connection, the R.I.B.A. has recommended that a day should be fixed each month on which the architect, contractor and quantity surveyor should meet; when, *inter alia*, "requests for payments on account should be submitted to, and checked by, the quantity surveyor."

"LET THE BUILDER BUILD"

Suggestions for Making the Best Use of the 50/50 Housing Ratio

[*By a Correspondent*]

CONTRARY to some expectations the return of a Conservative Government has not restored the opportunity to "Let the Builder Build," in the implied sense of that slogan. Up to 1938, this opportunity, within wide limits, was available to the builder as entrepreneur in the provision of houses, shops, offices, factories, and the like, for sale or to let. He provided and could sell "off the peg" a finished product, something tangible, at a competitive price, and not merely a tender figure to be submitted by professional intermediaries to a potential client. In short, he traded an article rather than offered a service. Favoured by the economic climate, the private enterprise builder was free to sponsor work which was carried out cheaper and quicker than by the contract builder.

If, in the result, some facades offended the eye and a small proportion of "jerry" work got by it cannot be denied that both an economic and social need were met, resulting in the accumulation of considerable aggregate capital assets and a source of national and local annual revenue. Appreciable benefits were derived by ancillary industries in the process, and work was provided for many of the otherwise unemployed of the period. Pounds then were not "meaningless symbols," "the road to serfdom" wasn't on our map, the choice was not "guns or butter"—or margarine if the currency was suspect—and the "rabbit hutches" and "monstrosities" were, more often than not, an excellent investment.

BUILDERS' METAMORPHOSIS

In contrast, yesterday's producer is metamorphosed into or replaced by the builder of local authority subsidised houses. In this role, said Mr. Aneurin Bevan, in the House of Commons, building is "the one industry that enjoys all the qualities of unrestricted private enterprise, and it is the most anarchistic of all." On another occasion he remarked there that "if private enterprise is falling down, we might have to pick it up." The premise being false, the boast is vain. Private enterprise building of the pre-war years and building by contract, either then or now, are not the same thing, though within the same orbit. One is a caricature of the other. "What is that cacophony I hear?" continued the ex-Minister. "Tell us how they propose to solve the housing problem by setting the building industry free."

Indeed, not by a 50/50 proportion of private building, without imputing that proposal by the present Minister of Housing and Local Government as a specific reply to the question posed, especially as its probable effective ratio will be only 1 : 4. Nor is a freed industry in need of a "housing crusade," and the doubtless well-intentioned appointment of Sir Percy Mills to advise "on the steps to be taken to increase the tempo and hasten the provision of houses for the people" is reminiscent of the "military operation" to be applied to the same artificially created problem under a former administration. Close the market place completely, even permit only one half of it to open, and goods are scarce and up go the prices.

A PILLORIED INDUSTRY

Apart from being accused of cupidity and wanting to work for a profit, and not being run as a social service, it is in the matter of the organisation of its work and the method of its execution that the building industry is chiefly criticised. It is not homogeneous, contains too many small firms, perpetuates traditional craft processes (abetting architects presumably not included in the indictment), and is allergic to the use of machines. That by no means completes the catalogue of alleged faults. The most recent and much publicised stigma attaching to it is that its activities are split up and compartmented to such an extent that efficient co-ordination is quite impossible.

Now not even in identical mass-produced machines is every component found on the assembly lines designed and manufactured by the producer of the machines. It is illusory to think that more than limited factory techniques can be applied to an almost infinite variety of traditionally constructed buildings, however attractive the speculation. More integration of design, manufacture and assembly is possible, as the name implies, in prefabricated alternatives, and to some extent where the builder is the designer and merchandiser of his product—where he is not banned and prohibited in the exercise of his calling. The indispensable requirement is *Qu'on laisse passer laisser faire.*

THE CONTRACT BUILDER

The imperative need to keep within a competitive estimate must always be a deterrent to inefficiency, but a complacent acceptance of that fact need not deter consideration of what might be agreed as positive aids or, on the other hand, impediments to maximum production.

(1) *Standardisation.*—While it is difficult to measure building productivity except by comparing effort expended in the building of two precisely similar structures, the self-evident truth is conceded in advance that not all builders are equally efficient. The frequent comparison of man-hours and cost of, say, to-day's council house with its pre-war counterpart as the gauge of efficiency is not quite realistic and objective. Even with houses of equal floor area a number of variants are known to affect the comparison, e.g., formerly a carpenter pursuing second-fixing operations was required to hang one door to each bedroom. In a recent example nine doors had to be hung in the bedroom of a house being built under one authority—the entrance door and folding doors in two heights to two cupboards—a full day's work for a carpenter. To the line of the nursery rhyme, "that's the way the money goes," might be added—and hours, too.

It is also pertinent to say that similar cumulative differences eloquently illustrate what happens when the maximum ceiling price per square foot set by the one virtual customer becomes the determinant of value and not that of the free competitive market.

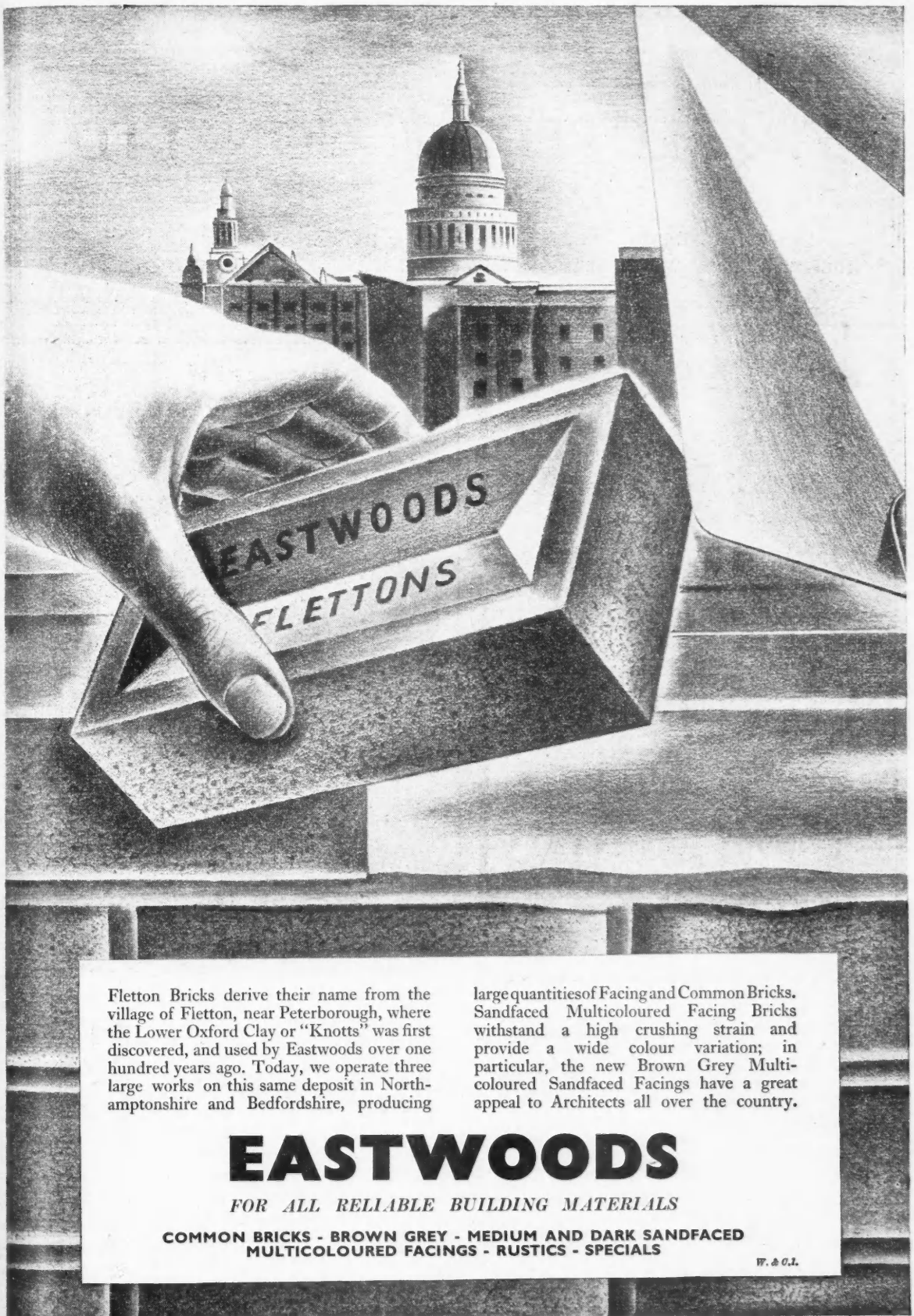
EXTRAVAGANT AMENITIES

In the matter of dwelling-house space standards and extravagant amenities, builders have been among the most active in representing that, as in other things, the best is often the enemy of the good. Many of them would welcome the opportunity to put up acceptable houses not necessarily conforming to sacrosanct Dudley standards. If standards of space, why not partial standardisation of design, specification and quantities for houses and other buildings which could be duplicated? Here, surely, is an opportunity for effective co-ordination within the industry. Initially it could have a limited objective yet be productive of economy in drawings, specifications, bills of quantities, estimating, ordering materials, quotations, etc., to a remarkable degree. The analogy is not complete, but imagine all in the queue for a new car demanding that each have a different design.

(2) *Overloading.* — Admittedly, builders have attempted too much, and the postponement of starting dates for new works by the new Government is a step in the right direction. Overloading has encouraged pirating of labour and the disbursement of considerable sums of money in payments for travel, travelling time, extra rates and subsistence allowances. Parenthetically, it would be interesting if the next report of the Girdwood Committee could tell us how many extra houses could have been built with the money spent to attract labour from one place to another. For the present, except for rearmament and, perhaps, power-stations, it is suggested that the amount of building authorised in any locality should be determined by the resident building labour in it until such times as the operations of some of the clauses of National Working Rule 6 are suspended. Advocacy of this policy is made in the national interest and not without due reflection regarding its implication for sectional interests inside and beyond the boundaries of the building trade.

A CASE NOT PROVED

(3) *Bonus or Bogus.* — The principle of incentive payments may be a right conception, but its operation leaves much to be desired. In application, work probably is speeded up, with resultant gain in time. It remains doubtful if other economies ensue in the process. Except for works carried out by direct labour or on a value-cost basis with accrued savings shared between the men and the employing authority (credited to direct cost) it has yet to be proved that it results in appreciably cheaper building. Few of



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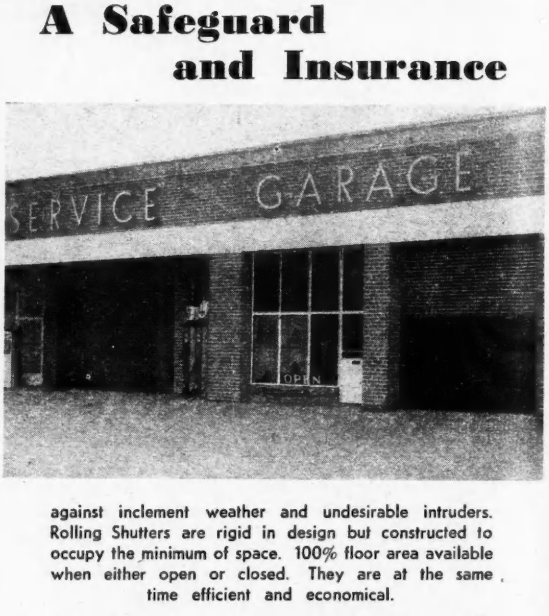

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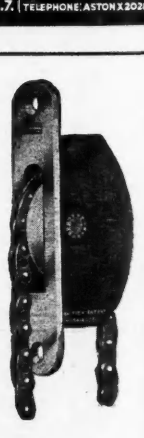

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the savings reach the owner's pocket. Moreover, with varying targets between job and job, men are enticed from one employer to another. Not infrequently the target and ratio of distributed savings, when it is beaten, are made a bargaining counter resulting in the capitulation of the employer to inordinate demands or losing his labour to another. "What is the rate?" is the first question asked by the would-be employee. "How much bonus do you pay?" The scheme, apparently successful and obligatory under a totalitarian regime, has unpleasant possibilities under our mixed economy.

The return to a system of equal pay for unequal work is not necessarily to be inferred; alternatively, differential rates of hourly pay have not proved uniformly successful. The wage structure to-day, in fact, is chaotic, and the sliding-scale rule farcical in the face of recurring extra wage claims and awards without correspondingly increased production. In an inflationary situation we can all make out a good case for compensatory pay increases, giving another turn to the screw in the process when group pressure succeeds. At the risk of being considered reactionary, the view is here advanced that for the majority the only real incentive is the threat of deprivation, an observation not confined to manual workers.

THE POST-WAR HANGOVER

(4) "*Cost-plus Psychology*."—The post-war hangover of "rise and fall" safeguards introduces a flavour of cost-plus procedure into lump-sum contracting, encourages only token resistance to inflated wage claims and cushions the merchant and manufacturer against the impact of uncalculated risk, known risks having been anticipated by price-fixing arrangements in certain cases. All the lambs of the flock need a tempered wind. It's the owner who gets no protection against a chilly blast.

Attempts to stop this "heads I win, tails you lose" game usually elicit the reply that the hazards of contracting are sufficiently onerous without having to predict the unpredictable. Actually, the amount of work, expense and delay borne by architects, surveyors and contractors is enormous, the details of which are too vividly familiar to need recital here. A falling market would damp any remaining enthusiasm for the operation of the "rise and fall" clause. No doubt everybody concerned would be glad to be rid of it. The remedy is in the hands of the buyers, and it is he who pays the piper's prerogative to call the tune.

Another "safety first" provision has been canvassed recently in this newspaper in the guise of a Central Estimating Office. Actually, this is a revival of a similar submission to be found in a past number nearly ten years ago. While superficially attractive it is unlikely to meet with the support of members of an industry who for survival in an independent competitive form must resist such allures, though the arrangement might be welcome as a ready-made adjunct to a National Building Corporation. It is questionable whether the War-Department Schedule of Prices has lessened the disparity of tendered prices within the sphere of its application.

(5) *Mutual help*.—Pedestrian preoccupation with wage bargaining and disputes, working conditions and rules, and consultative and liaison committees has been characteristic of the limited outlook of the employers' federations. In contrast the praiseworthy and public-spirited experiment in housing by one of the regional bodies reveals an imaginative conception of a fuller obligation. It is surprising, for example, that the employers, with enviable facilities, do not appear to have undertaken direct research, especially in work studies, method, productivity, the application and use of mechanical plant under different conditions, the cost of unproductive time in labour and machines, weather and lost time, foreign building practice and development, welfare arrangements, safety precautions and accidents, and so on.

Again, without a mandatory intention some guidance on targets, expressed in terms of man-hours per unit of work, would have been helpful to members wishing to operate payment-by-results. Another service which suggests itself is the preparation and publication of statistical information on price and wage fluctuations. Such authoritative data presented in percentage form, properly weighted, might well be accepted as the basis for settling (and presenting) rise and fall claims without the detailed checking of hours worked, quotations, receipted payments and all the paraphernalia which it now involves. Consequential expedition of final payments and the reduction of bank overdrafts would be an inviting benefit. Expansion of price indices into a cost service would also be a boon to subscribers.

LEEDS SCHEME TO INCREASE OUTPUT

Making Use of the Smaller Builder

LEEDS Corporation's Works Department has evolved a scheme to speed up housing by allowing builders to get on with their work with the minimum of delay, clerical work and financial anxiety. The idea behind the scheme, which has been evolved by Mr. H. R. Hudson, L.R.I.B.A., M.R.San.I., the City's Director of Works, is to tap all available sources of labour by making full use of the smaller builders and their employees.

The scheme has grown out of the system employed in Leeds over the past four years in regard to maintenance work, whereby maintenance work on Corporation property has been carried out by local builders on a basis of mutually agreed price rates. This system has enabled an extensive programme of deferred maintenance, accrued during the war and post-war years, to be economically executed and completed in record time.

In his draft report on the scheme, Mr. Hudson deals first with the question of prefabrication. This, he says, may be described as a method of reducing constructional materials to a minimum number of preconstructed standard units, which can be easily and quickly erected. Such a system also predetermines the cost of a structure and enables the work to be tendered for on a lump sum basis without resorting to the use of bills of quantities, with the exception of works of abnormality.

To some extent these methods have proved very satisfactory in expediting the erection of houses and the principles could be extended to suit traditional methods of construction so as to enable the smaller building contractors to participate and to ensure an adequate labour force for effectively meeting the demands of the current housing drive of the Leeds City Council.

The Procedure Explained

It would therefore seem logical to apply if possible, the report continues, any successful outcome of prefabrication to that of traditional building, and after careful consideration it has been decided to put into operation at an early date the following unit system of traditional house building.

Plans, specifications and bills of quantities, are to be prepared by the City Architect's Department, and will be given approval in principle by the Housing Committee, who will then forward these to the Works Department for the pricing-out of the quantities in conjunction with a technical panel of the local branches of the National Federation of Building Trade Employers' and the Federation of Master Builders. Assuming that the resultant total price exceeds the Ministry's ceiling figure, due to possible over-measurement or over-loading of the quantities, a schedule of amendments will be drawn up at the same time, with a view to bringing the cost within the stipulated limit. The completed priced bill of quantities will be returned to the Housing Committee and, upon receiving their approval, the Director of Works will then be instructed to proceed with the building of houses at the negotiated price agreed by the panel referred to and accepted by the Housing Committee.

Before any building project commences the original bill of quantities will be dissected into various unit stages of work in each trade and definite price rates for each unit negotiated and agreed with the builders' representatives. This will provide a two-fold purpose in so far as the original bill of quantities will be given a check as to any omissions, etc., with the exception of any rise and fall in prices, etc., covered by the R.I.B.A. Contract, and the final figure will be virtually settled before commencement of operations. Works of abnormality, e.g., varying foundation depths, drainage, footpaths and fencing, will be priced under a separate unit rate schedule, thus confining site measurement to a minimum.

All price rates having been agreed, work will then be allocated to an adequate number of contractors to cover the sites available for building, following which actual building operations will commence. As completed, houses will be finally "vetted" by the City Architect's Department and handed over to the Housing Committee.

Another simplification of the system will be that all the so-called frills of the industry attached to a housing project will be undertaken direct by the Council's Works Department, who will be responsible for the provision of communal site compounds, office accommodation, stores and canteen

facilities, telephone, watching, scaffolding, etc., and these facilities will be made available to contractors as and when they commence the work of construction.

Payment for Work Done

As previously stated, the work will be carried out and paid for on the method of negotiated unit rates upon the completion of each of these unit stages of the work. A certificate of payment will automatically be given to the contractor concerned. The individual unit rate arrangements are outlined in an appendix, from which it can be seen that no one unit exeeds £220 in value, the average being under £100. This will not only be of convenience to the smaller contractor with a limited capital, but will also constitute the means for the rapid settlement of any contractor's final account. Furthermore, the arranging of the work of construction in each trade into standard unit operations, each individually controlled by a fixed price, will practically eliminate site measurement. The table reproduced on this page sets out the basis for assessment of charges by builders.

A further refinement will be that certain materials and components requiring flexibility in the specification and in short or difficult supply, will be bulk-purchased by the Corporation and made available to contractors at such times as are necessary to guarantee continuity in the progress of their work. This will, of course, be without prejudice to contractors in the position to obtain their own supplies by the required delivery date. Under either system, however, the usual profit-handling charge will be allowable.

The materials to be bulk-purchased comprise sanitary fittings; plumbers' materials—feed tanks, copper boilers, cylinders, etc.; rainwater goods; manufactured joinery—windows, doors, staircases and cupboards, etc.; fireplaces; and gas cookers.

Organisation

The house-building programme will be handled by a separate section of the Works Department completely divorced from normal general maintenance and embodied in a site organisation carrying only its own establishment charges. By adopting such a method it is possible to keep the overhead charges for supervision and administration to a minimum and build to a competitive figure.

It is also intended (inclement weather conditions permitting) to give continuity of work as far as possible during any 12 months. The Works Department will also assist contractors by programming internal works of adaptation and repair, as a reserve to cover the winter months.

It can be seen, the report goes on, that this system has virtually "jigged" traditional house building on lines similar to the methods of mass production of standard commodities and, furthermore, will ensure that given reasonable co-operation any contractor of good repute will be presented with attractive conditions as an incentive to building municipal houses.

In conclusion, it is emphasised that the success of such a scheme depends upon the application of the following broad principles:

(1) Before any building work is commenced a finalised and completely predetermined operational plan *must* be laid down and adhered to, and to which under no circumstances will any alteration be permitted.

(2) Contractors, as a result, are not to be hampered or the work retarded by reason of preliminaries and formalities attached to the conditions of contract and specification.

(3) Flexibility in choice of alternative materials in short supply together with allocation of labour.

(4) Contractors to apply themselves to the practical constructional side of the work only, thus being relieved of all other distracting matters.

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3	Brickwork from first floor to first-floor window cills.			
4	Brickwork from first-floor window cills to completion of topping out.			
5	Hardcore filling and concrete sub-floors.			
6	Reinforced concrete flat roofs.			
7	Ranges—fixing. Deduct ranges supplied less handling charge.			
8	Drainage, including excavation, concreting, etc., based on prices for varying depths.			
9	Manholes, including excavation, P.C.C., etc., based on prices for varying depths.			
10	Concrete paths and fencing.			
11	Grano. and asphalt flooring.			
	TOTAL ... £			

CARPENTER

Unit	Description of Work	£	s.	d.
1	Shuttering to flat roofs.			
2	Window and door frames (handling charge). Deduct window and door frames supplied, less handling charge.			
3	First-floor joists and floor laid complete.			
4	Roof timbers, soffit and fascia.			
5	Door casings.			
6	Window bottoms, plugging shelf pateræ, etc.			
7	Stairs complete. Deduct staircases supplied, less handling charge.			
8	Cupboards. Deduct cupboards supplied, less handling charge.			
9	Skirtings, architraves, shelving.			
10	Internal–external doors. Deduct doors supplied, less handling charge.			
11	All ironmongery. Deduct ironmongery supplied, less handling charge.			
	TOTAL ... £			

ELECTRICIAN

Unit	Description of Work	£	s.	d.
1	Wiring.			
2	Fittings.			
	TOTAL ... £			

PLUMBER

1	Rainwater gutters, fallpipes and flashings.			
2	Glazing.			
3	Mains water supply, hot and cold services, gas service.			
4	Sanitary ware fixed complete. Deduct sanitary fittings supplied, less handling charge.			
	TOTAL ... £			

PAINTER

1	External. Internal. } Including all priming.			
	TOTAL ... £			

ROOFING CONTRACTOR

Unit	Description of Work	£	s.	d.
1	Roof tiling complete.			
2	Asphalt flat.			
	TOTAL ... £			

PLASTERER

1	Ceilings boarded.			
2	Breeze slab partitions.			
3	Roughing on.			
4	Skimming and finishing off.			
	TOTAL ... £			

SUMMARY

	Amount £ s. d.
Bricklayer	
Carpenter	
Electrician	
Roofing Contractor...	
Plumber	
Plasterer	
Painter	
Abnormalities	
Establishment	
TOTAL ... £	

HANDLING CEMENT IN BULK

Some Continental Methods

[From a Special Correspondent]

A FEATURE of current construction methods is the increasing use of bulk cement which has been fostered largely by the scarcity and extra cost of paper bags. Some of the methods used in this country for the supply and handling of cement in bulk have been described in previous numbers of this journal; for example, that introduced by F. Shepherd and Son, Ltd., was described in our issue of September 21 last,

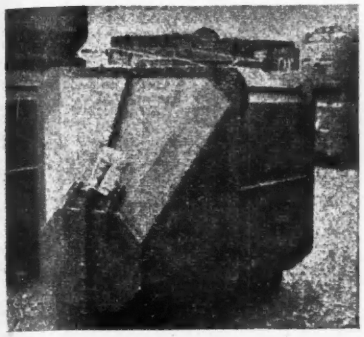

Fig 1.—Container used in France.

and that employed by Road Machines (Drayton), Ltd., which is of the small portable type, in our issue of December 21.

Much of this plant is suitable mainly for sites where the consumption of cement is large, but there is also available small portable equipment which is suitable for sites and concrete products works where three tons or less are used per hour. At the other extreme there are constructional works such as the Claerwen dam in central Wales to which cement was delivered continuously in three-and-a-half-ton bottom-opening steel containers, which were brought part of the way from South Wales by rail and the remaining nine miles to the site by road. The practice of supplying cement in bulk originated on the Continent, and some of the methods used there are described in this article.

Transport in Containers

Closed containers of various capacities are used for transport of bulk cement by either road or rail. A method employed in Switzerland is to use cylindrical steel containers of eight-hundredweight capacity, which are mechanically filled and loaded on to a flat railway wagon. It takes not more than 15 minutes to load a wagon with 48 containers. The containers, which can also be transported by road, are unloaded and emptied mechanically at the site. A four-ton container, which is used in France, is shown in Fig. 1. This is filled at the top and is emptied by tipping it towards the side with the flap. This container is generally carried by rail, and on the French railways is carried at a reduced rate.

Rectangular or cylindrical containers of one-hundredweight to two-hundredweight capacity are used in Germany for transport by road, and are emptied by tipping. The covers may be loose or may be lids fitted with locking devices. Larger rectangular containers of one-ton to two-ton capacity are emptied by doors in the sides or bottom. A later development is the use of light cylindrical steel containers of two-and-a-half-ton to three-ton capacity that are carried in pairs on their side on flat-bottom lorries (Fig. 2). Each container is filled through three openings in the top and emptied by three corresponding openings in the bottom. There is also an opening (d) at each end to enable the containers to be cleaned out by scraping. Across each end there is a coupling bar (c) and locking device to secure the containers in position during transport. The method of unloading the containers, which is shown in Fig. 2, is to roll each container off the lorry by means of a winding rope and winch (g) along a guide rail (f) on to an unloading platform (e) to which a measuring device (i) is attached.

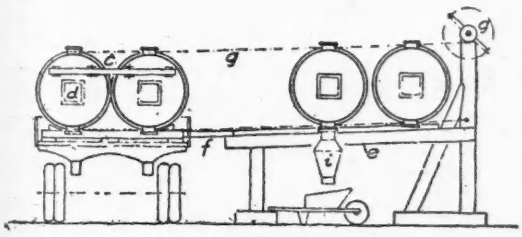

Fig. 2.—Cylindrical containers for road transport.

Fig. 5.—Special road vehicle for short journeys.

Another method is illustrated in Figs. 3 and 4. The steel containers each hold three tons of cement and are filled at the cement works and transported to the site on flat-bottom lorries. The containers are mounted on wheels and are pulled from the lorries on to a tilting-bench, and are emptied through doors in the end.

Cement for two dams in Italy was transported in cylindrical galvanised steel containers each holding eight hundredweight. The containers were filled automatically at the cement works and loaded on to lorry trailers which took them to the railway. The containers were then transported by rail to the station nearest the site and again loaded on to trailers. Transference from one vehicle to another was effected on roller conveyors. At the site the containers were discharged into a small bin from which the cement was pumped to a 2,000-ton silo. About 200 tons of cement were delivered daily; 12 wagons and 920 containers were used.

Transport in Road Vehicles

Cement may be transported in bulk by road, but an important factor is the length of the journey. For short journeys special vehicles are satisfactory, but as such vehicles cannot take a return load they are not economical for long journeys, for which ordinary lorries are therefore best. The cement may be in containers, as previously described, or may be loose. Vibration of the vehicle causes loose cement to compact, with the result that losses due to wind are slight and may amount to not more than one per cent., which loss may be avoided if the lorry is provided with a covering. If the lorry is

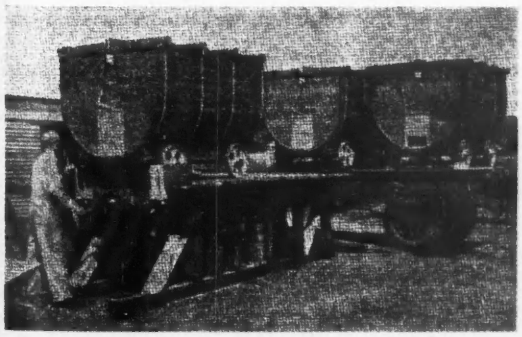

Fig. 3.—Containers for road transport.

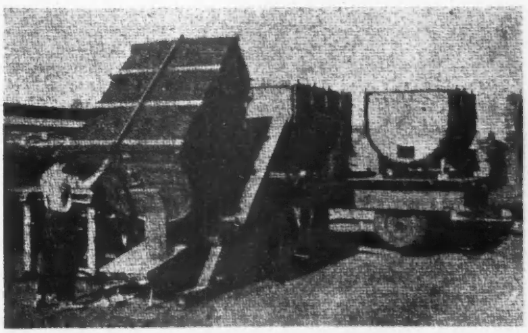

Fig. 4.—Emptying containers for road transport.

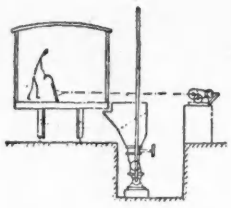

Fig. 6.

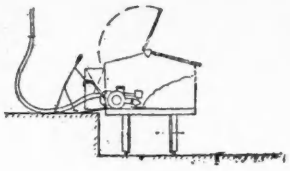

Fig. 7.

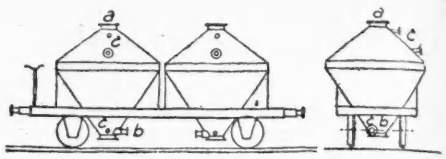

Fig. 8.

Fig. 9.

KEY TO FIGURES : Fig. 6. Unloading railway wagon into hopper of pump. Fig. 7. Unloading railway wagon by pump. Fig. 8. Special railway wagon. Fig. 9. Special railway tank wagon. Fig. 11. Transfer silo.

Fig. 11.—(Dimensions in metres.)

not a tipping vehicle, an inclined chute is necessary to unload the cement.

Special vehicles with hoppers are also used, and in one case they are emptied by compressed air obtained from a compressor coupled to the engine of the vehicle. A special vehicle designed by a German firm is shown in Fig. 5. It has two compartments which are filled with cement and compressed air admitted at the cement works, and which are emptied at the site into a silo through a connecting hose.

Transport in Railway Wagons

A road vehicle is a useful form of transport for cement in bulk, since it takes the material to the site, but transport by rail is usually more economical. Open goods wagons are suitable only for short distances and during fine weather when the cement can be sufficiently protected against atmospheric influences by the provision of suitable covers. Covered goods wagons are, however, used in Germany for this purpose. Door openings are blocked by stacking filled cement bags across them so that an enclosed space for the loose cement is formed. To empty the wagon, the doors are opened, and a sufficient number of the bags are removed to provide a working space. The wagon is unloaded by hand, by a small mechanical shovel, or by pump. When unloaded by hand, the cement is shovelled from the wagon on to a portable belt-conveyor or into the boot of a bucket-elevator, the conveyor or elevator discharging into containers or another vehicle, or into a store or silo. If the cement is handled by a pump, two methods are used. In one method (Fig. 6), the cement is discharged by a mechanical shovel into a hopper over a fixed pump, and in the other method (Fig. 7), a portable pump is placed inside the wagon.

Fig 8 shows one type of the special tank wagon used in Germany. The combined capacity of the two hoppers is 26 tons. The inlets are at (a), the connections for the emptying pipes at (b), and the connections for the cement pump at (c). All openings have tight-fitting covers secure against wind and rain. When emptying the hoppers, the cement is pumped through four-inch to six-inch diameter delivery pipes, connected to (b), to storage silos that may be at a horizontal distance up to 165 ft. and up to a height of 33 ft. above rail level. Compressed air introduced at (c) loosens the cement and collects in the conical tops of the hoppers; the pressure of this air forces the cement through the delivery pipes. The storage bin is fitted with a filter and flue so that surplus air collecting in the bin can escape. Advantages of this method are its simplicity, the absence of dust, and the fact that no manual labour is required.

Another form of tank wagon used in Germany is shown in Fig. 9, and has a capacity of 24 tons. Similar wagons of 38 tons to 45 tons capacity, but on two bogies, are also used. For the wagon in Fig. 9, (a) are large openings at the top and ends which enable the tank to be used for bulky goods; (b) and (c) are the inlet and outlet respectively for cement and other granular materials. A disadvantage of a cylindrical tank, compared with the hopper type, is that compressed air cannot be used to empty it. The cement has to be loosened and stirred by rodding so that it moves towards the outlets. Any residue is cleaned out by hand with shovels.

Storage in Silos

Storage of cement in bulk in steel silos on the site is common in this country. One form of timber silo used on the Continent is illustrated in Fig. 10. Cement is brought by road in tank vehicles from which it is transferred by compressed air to the silo. The cement is extracted from the bottom of the conical hopper.

Some German firms have developed the setting-up of central stores of cement by the use of transfer silos (Fig. 11) in large cement-consuming areas. Cement is delivered in bulk by rail or boat to the transfer silo and is then distributed by road to near-by sites in metal containers or lightweight paper bags which are filled at the silo. In the case illustrated, the cement is brought in railway wagons (1) which are emptied by a mechanical shovel (2) into the boot of a bucket elevator (3). The cement passes down a chute (4) into the transfer silo (5) or may be diverted into a measuring hopper (7), from which it passes over a weighing machine (8) into lorries. A separate conveyor (6) takes the cement from the transfer silo to the measuring hopper.

Some of the foregoing notes and illustrations of practice in Germany are abstracted from *Packen, Verladen und Transport von Zement*, by E. Plassmann, E. Ruhland and O. Farber, who express the view that paper bags are, and may remain, the best means of transporting cement. It is reported elsewhere that 70 per cent. of the cement made in Western Germany is transported in bulk.

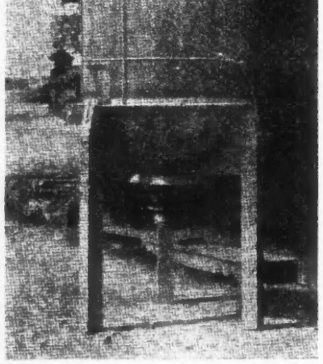

Fig. 10.—Timber site silo.

STEEL ALLOCATIONS

A Treasury Statement

IN face of a national steel shortage of 1½ million tons, the mounting claims of the defence programme and the export drive have made it imperative to allocate steel supplies to their most important uses. Since this must involve substantial and important changes in the existing pattern of production, the Government, after consultation with the trade, has decided to introduce a system of allocation of supplies based on the priorities of national needs.

The shortage itself is the result of three circumstances. The first is the reduced level of home steel production, due to a heavy fall in imports of German scrap and shortage of imported iron ore. The second is that as tooling up and preparatory work in the arms factories lead on to mass production, the defence requirement of steel rises rapidly; this increase is now going on and will continue for some time longer before levelling off. The third is that in face of a trade deficit of unparalleled gravity it is now apparent that the best prospect of achieving an increase in exports is to produce for overseas sale larger quantities of plant, machinery and steel goods of all kinds.

Since these growing needs must be met, and the total supply is limited, it is the home market that must suffer. But at home the minimum needs of basic industries such as coal, transport and power production must be protected, so that the sacrifice must be borne by other steel-using industries, in proportions that vary with their importance to the national economy.

Individual firms are, themselves, expected to co-operate with the authorities in carrying out the principles behind the scheme. Thus, if a firm producing both for home and export finds its allocation reduced, it should ensure that exports are maintained at the highest possible level and the cut made to fall primarily upon home uses.

This comprehensive allocation is carried out with great care: a central committee, after close examination, allots quantities among the main broad classes of national need, and individual departments then, with equal care, sub-divide the quantities allotted to them among the concerns within their purview. Lessons will be learned from experience. The mistakes and teething troubles of the opening stages of a new scheme will be corrected as rapidly as possible.

The Government is well aware of the temporary inconvenience and dislocation that are involved in the necessity for change. But it earnestly asks those affected to remember as all available steel is being allocated, with no reduction in total on recent levels, that if one firm were to get more it could only be by another getting less, and that national considerations in this grave emergency must come first.

A strenuous effort is being made by the Government to find means of raising the total of supplies by increasing imports of ore and of semi-finished and finished steel, wherever supplies are available. It is well understood that this is a problem of the greatest urgency for industry and the country, and the Government is hopeful that means will be found to lessen its severity and to limit the period during which allocations at the present level need to continue. As soon as more steel is available, allocations will be increased, with, of course, the same regard to national priorities.

COMPARATIVE PRICES OF MATERIALS

Copyright *The Builder*

	January, 1939	*January*, 1951	*January*, 1952
BRICKS—	£ s. d.	£ s. d.	£ s. d.
FLETTONS	2 6 3	4 12 0	5 5 3
BLUE WIRECUTS	7 4 0	17 18 6	18 16 6
GLAZED BRICKS	24 0 0	53 0 0	60 0 0
THAMES BALLAST	7 3	15 9	17 3
PIT SAND	7 9	15 2	17 6
¾ in. SHINGLE	7 3	15 2	16 11
¾ in. BROKEN BRICK	11 3	17 6	19 3
PORTLAND CEMENT	2 2 0	4 1 0	4 15 3
PORTLAND STONE	4 5	6 4½	6 11
SLATES—			
24 by 12 in.	31 5 0	71 0 0	89 3 9
20 by 10 in.	20 15 0	46 18 6	58 10 6
16 by 10 in.	14 7 6	32 3 6	40 16 0
TILES—			
MACHINE-MADE	4 2 6	10 0 0	11 6 0
HAND-MADE	4 17 6	11 17 6	13 7 0
SOFTWOOD—			
CARCASSING QUALITY	£18—£22	£70—£75	£115—£120
JOINERY QUALITY	£28—£35	£75—£85	£130—£135
HARDWOOD—	£ s. d.	£ s. d.	£ s. d.
EUROPEAN OAK	14 0	1 10 0	2 0 0
ENGLISH OAK	10 0	1 2 0	1 5 0
HONDURAS MAHOGANY... ...	15 0	1 17 6	2 15 0
MOULMEIN TEAK	15 0	2 5 0	3 0 0
R.S. JOISTS	16 10 0	34 0 0	45 0 0
⅝ in. MILD STEEL RODS	15 0 0	28 3 0	31 15 6
1 in. GALVANISED BARREL... ...	5¾	9¼	11¾
SHEET LEAD	23 0 0	156 5 0	199 0 0
LINSEED OIL	2 11	16 8	19 0
GROUND ENGLISH WHITE LEAD	2 10 0	9 3 6	11 3 6
WHITE LEAD PAINT	16 8	2 9 0	3 9 0
RED LEAD	1 18 0	9 12 6	10 3 9

HOUSING PROGRESS

Figures for November

THE HOUSING SUMMARY presented to Parliament on January 3 as a White Paper,* jointly by the Minister of Housing and Local Government and the Secretary of State for Scotland, shows that the number of permanent houses completed in Great Britain during November was 17,819 compared with 17,724 in October and with 17,453 in November, 1950.

The total number of houses completed under the post-war programme is now 1,154,173 (997,027 permanent and 157,146 temporary).

During November homes were provided by new building, repair of unoccupied war-damaged dwellings and conversion for 18,414 families, compared with 18,445 in October and 17,962 in September. This brings the total number of families rehoused by these methods under the post-war programme to 1,444,993. This total does not include homes provided in service camps or requisitioned properties.

* Cmd. 8435, Housing Summary, November 30, 1951, H.M. Stationery Office, price 2d.

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BIRMINGHAM'S DEVELOPMENT

Twenty-storey Hotel Projected

MODELS AND PLANS were displayed in the Council House at Birmingham on January 2 to illustrate Birmingham's development plan under the Planning Act, 1947.

The plan is divided into five-year instalments. An outstanding building projected by private enterprise will be a 20-storey hotel with showrooms to be erected on a rock base at the High-street end of New-street. Elsewhere, flats averaging from six to seven storeys, but in at least one instance 12 storeys high, will be constructed.

Snow Hill railway station is to be extended, and there is a choice between two sites for a civic theatre. There will be a multi-storey car park, a subway crossing at the busiest traffic junction, and an inner and intermediate ring road. The plan limits population to 1,081,000.

HOUSES OR AGRICULTURE

Appeal Against Compulsory Acquisition of Building Land at Saltdean

AN appeal by the Saltdean Estate Company, and other landowners, against a proposal by the Minister of Agriculture to purchase compulsorily, for farming purposes, 819 acres of land in the Saltdean-Newhaven area, which the Ministry had requisitioned during the war for food production, was heard before the Agricultural Land Tribunal at Lewes on October 9, 10 and 11, when a decision was reserved.

The 819 acres included certain sections of the Saltdean, Telscombe and Peacehaven Estates, to the east of Brighton, which had been planned and partly laid out for building, and one of the main points of the appellants' case was that tentative planning approval had been given and that it was anticipated that the whole of the requisitioned land would be returned to the respective owners at the end of the emergency.

Case for the Appellants

In his opening submission on behalf of the Saltdean Estate Co., the owners of the largest area of land involved, MR. HAROLD WILLIAMS said that after having drawn up plans in which most of the Saltdean land was shown as being provisionally reserved for housing development, the Brighton Corporation apparently became willing to accept the reservation of the land for agricultural purposes.

Tracing the history of the site from 1928, counsel said it had been largely developed as a new suburb or satellite town, with an hotel, garage, shops and a recreational centre. Then came the war and its aftermath, years of complete disaster for the company. The site was in a prohibited area, the lido was requisitioned and ruined, recreational amenities destroyed and the Ocean Hotel occupied and left in the usual condition which signalised the departure of a Government Department.

Dealing with the future of the area, Mr. Williams said that whatever Brighton had been able to do in the way of housing since the war, it was still faced with a large internal demand which could not conceivably be satisfied except at Saltdean. He contested the Ministry's claim that there was enough other land available for housing to satisfy the demands of the next 30 or 40 years.

Evidence on behalf of the Company was given by MR. A. H. FRENCH, chartered surveyor, of Brighton, who said there was no land in Brighton available for development except pockets of unfinished portions of estates that had been started before the war.

The Ministry's proposal, said Mr. French, was a flagrant example of the competing demands of housing and agriculture. In this case, however, the scales were weighted in favour of housing owing to the great shortage of houses in the locality.

The Ministry's Case

Evidence for the acquiring authority was given by MR. G. J. BURKE, a member of the Agricultural Land Commission, who said that if the proposals of the Ministry were allowed, the land would be let to tenants on yearly tenancies.

In his final submission on behalf of the Ministry, MR. F. P. R. MALLOWS said that the land had been brought from dereliction to fertility by the War Agricultural Committee, and submitted that it would again become derelict if the present appeals were allowed. Whilst he agreed that Saltdean was the outlet for Brighton, there was no conflict there between the interests of housing and agriculture. Ample land would be left in the area for housing development.

Tribunal's Decision

The Tribunal has now announced its decision in the Ministry's favour and has confirmed the compulsory acquisition.

We understand that the Minister's proposals are considered, in this case, to be contrary to what was likely to have been the intention of the Agriculture Act of 1947 and that steps are being taken to test the legality of the proceedings in relation to particular land covered by the proposals.

EUROPEAN TIMBER

E.C.E. Report on Market Trends

THE decline in the prices of many raw materials which was a feature of world markets during the spring and early summer did not affect the timber markets, where the upward trend of prices continued and, indeed, became still more marked in the case of pulpwood and pitprops, the increases amounting to 20 to 25 per cent. during the quarter under review. "On the whole, however, European timber supplies, as regards both sawn softwood and roundwood, would appear to be assured for the second half of 1951 and even for 1952 or, at any rate, do not seem to warrant any serious apprehensions, in view of the elasticity of the supply markets, especially the North American market, which is at all times prepared to meet the most urgent requirements."

Such are the general features of the European timber market situation during the second quarter of 1951 as outlined in the Quarterly Bulletin of Timber Statistics published by the United Nations Economic Commission for Europe, which has just appeared. (European Office of the U.N., Geneva.) Encouraged by the high prices for all classes of timber, forest owners have increased their fellings as compared with the previous year. The steady demand has also stimulated the production of pulpwood and pitprops. Nevertheless, the pitprop situation has remained unsatisfactory, stocks of this class of timber having steadily declined in most countries. The situation as regards pulpwood and sawn softwood stocks appears to be more satisfactory owing to the substantial volume of imports.

Scandinavian Sources

In contradistinction to the first quarter of 1951, the April-June period was marked by a falling off in timber transactions. The Scandinavian countries had sold up to 80 per cent. and more of their timber by March or April, and Continental importing countries which had made heavy purchases in Northern Europe in the autumn and winter (1950-51) became somewhat less keen, the more so because the small lots remaining—which were sometimes of inferior quality—were generally offered at appreciably higher prices than those which they had paid for earlier purchases. Only the United Kingdom continued to purchase sawn softwood in the Scandinavian countries and Finland, mainly in order to make up or increase stocks, so that by the end of the first half of 1951 the Scandinavian countries had sold 90 per cent. or even more of their sawnwood availabilities, while at the same time countries exporting small roundwood had also disposed of nearly all their supplies.

Despite some consumer resistance, sawn softwood prices continued to rise during the second quarter, although a slackening of the trend was noted. The steady increase in sawnwood prices might in fact have serious repercussions on consumption during the second half of the year. At the same time there was a substantial increase in exports from producing countries, and in particular from Finland. Sawn softwood exports in general increased by 13 per cent. as compared with the corresponding period of 1950. Pitprop exports from Finland also rose while those from Yugoslavia declined.

At all events, states the Report, since the United States of America and Canada are always in a position to come to the assistance of Europe if necessary, the situation ultimately depends on a solution of the financial problem, i.e. on dollar availabilities. Moreover, if timber exports from the countries of Eastern Europe, and in particular from the Soviet Union, could be increased in the near future, that would ease the softwood supply situation in Western Europe. Incidentally, timber production and the timber trade in Europe have displayed remarkable flexibility, which has made it possible to overcome apparent difficulties and to cover the most urgent requirements at critical periods. It may therefore be hoped that, thanks to the energetic efforts of trade circles in various countries, there need be no fear of a serious worsening of the European timber supply situation.

Cwmbran Master Plan

Copies of the Cwmbran Master Plan and Report, which was reviewed in *The Builder* of December 28 last, are now available from the Cwmbran Development Corporation, Victoria-street, Cwmbran, Mon., price 10s. 6d., post free.

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HOUSE-BUILDING IN SUSSEX

Allocations of Private Licences

BUILDING in Sussex will receive a welcome impetus this year as a result of the Government's policy of permitting more building by owner-occupiers, writes a correspondent.

Brighton Council, for example, has decided to accept the provisional allocation of 600 houses, half of which will be built by the local authority and 150 by private enterprise. The allocation of the balance of 150 will be decided in March.

COUNCILLOR E. W. KIPPIN, chairman of the housing committee, says that licences will not be given out indiscriminately, but only to those in need. The council will proceed cautiously and be guided by public reaction.

A Labour amendment to have 400 houses built by the council, 100 by private enterprise and the remaining 100 to be allocated in March has been defeated.

Horsham Rural Council has been allocated 120 houses. Of these 96 will be council houses and the remainder built privately.

SIR GILES R. LODER, chairman of the housing and drainage committee, said: "Later this year we shall probably get an increased allocation, above this one." The building of 24 houses at Southwater could not be started, the clerk said, because the Ministry of Health had refused to sanction a main drainage scheme.

Worthing Council has been provisionally allocated 300 houses, and is being asked to adopt a "four corporation to one private" ratio. The housing committee is prepared to erect at least 268 houses in 1952, and the committee wants the council to agree that of the 300 houses 240 should be erected by the council and 60 under licence.

Half to Private Enterprise

Chichester City Council decided by a 10-8 vote to build 24 flats and 16 houses out of the 1952 allocation of 80 houses. From January 1 it agreed to issue 30 licences for owner-occupiers and a further ten licences during the ensuing six months Application for a supplementary allocation of 40 houses for letting will also be made to the Ministry of Housing and Local Government.

Cuckfield Rural Council will fix its ratio after discussing housing policy with builders and estate developers. At Seaford, people who wish to build a house for their own occupation have been invited by the housing committee chairman (Mr. W. F. Streeter) to apply for the necessary form, whether or not they have land or plans approved. The object is to find out which applicants are most in need.

"When the joint meeting is held to consider the allocations for 1952 a true picture can then be formed of the relative needs of applicants for council houses and private enterprise houses," said MR. STREETER. He was "very, very sore" about housing progress. At the beginning of the year they had contracted to build 30 houses on one estate in 12 months. Now only seven had been completed and 75 new names had been added to the housing list.

In conclusion: a note of progress. Worthing Rural Council has just finished its 500th home built since the war. This is an old people's bungalow.

SPECIAL VEHICLES ON ESTATE ROADS

When a Licence is Necessary

A CASE of interest to owners of "dumpers" and other special motor vehicles employed on housing estates was heard at the Chesterfield County Magistrates' Court recently when Messrs. Thomas Beighton, Ltd., of Brimington, Chesterfield, were described as "guinea pigs" by Mr. M. Mather, defending.

Harry Rudolph Wills, a motor driver, was accused of driving a motor vehicle without a driving licence and of driving it on the road "backwards for a greater distance than was permitted." Messrs. Thomas Beighton, Ltd., were summoned for permitting him to drive without a licence.

Chief Inspector W. A. Sheffield, stated that the accused had driven the vehicle backwards down a road known as Dade-avenue into Crick-road at an estimated speed of 30-35 miles per hour.

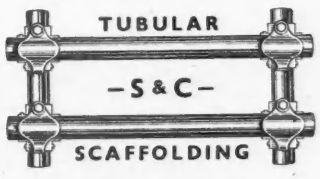
Mr. Mather submitted that it was still a private road and that the contractors were at liberty to close it if they wished. After P. C. Collinson had stated that the Staveley Urban District Council had tarred and sprayed the road and that Dade-avenue was one of the busiest on the estate, Mr. Mather argued that the council were trespassers.

Mr. Mather pointed out that a Scottish court had ruled that a "dumper" was not a motor vehicle. He was overruled by the court, the clerk (Mr. A. Cook) stating that (a) the road in question was a public highway; and (b) a dumper was defined as a motor vehicle.

It was ruled that the special vehicle which the firm used exclusively on building sites must be driven by a licence holder when the estate became occupied and the roads became public highways.

The chairman (Mr. H. Elliott) said that the court were satisfied that a technical offence had been committed, but granted an absolute discharge with costs.

Having Secured the Contract—what about the Steel Scaffolding?



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NATIONAL FEDERATION

"More Materials, Fewer Committees"

SPEAKING at the luncheon and annual general meeting of the London Master Builders' Association, Central Area No. 5, on Tuesday, MR. STEPHEN HUDSON, president of the National Federation of Building Trades Employers, said that since the war building contractors and their operatives had not only used all the materials they could obtain but had turned them into buildings so quickly that frequent and serious shortages had occurred. There was no doubt whatever that, with more materials, there would have been more building, or that if other types of building had been cut more houses would have been built with the same over-all supply of materials.

"I am sure, therefore, that if we can get more materials for housing in 1952 we can build many more houses than in 1951, particularly if local authorities follow the example set by the Wembley Council and grant more licences for the building of houses for sale privately," Mr. Hudson continued.

"My advice to the Government is, therefore, to concentrate on these vital aspects of the problem. The industry wants more materials and fewer committees."

STEVENAGE NEW TOWN

Minister's Appointments

THE Minister of Housing and Local Government, Mr. Harold Macmillan, has appointed Lieutenant-General Sir Charles King, a member of Crawley Development Corporation, to be deputy chairman of the Stevenage Development Corporation. In addition, Major R. G. Howard, chairman of the Stevenage Urban District Council, Mr. Sidney Jackson, chartered accountant, and Mr. John Watson, chartered surveyor, have been appointed members of the corporation. Mrs. Evelyn Denington, Mr. P. T. Ireton and Mr. C. T. Every have been reappointed. The appointments are for a period of two years. These seven, with the chairman, Sir Thomas Bennett, now constitute the corporation.

It was announced on January 5 that Mr. John Corina, deputy chairman of the Stevenage Development Corporation, had been informed by the Minister that his membership of the corporation would not be renewed.

OFFICIAL NOTIFICATION

Copper and Zinc Restrictions Postponed

Manufacturers of goods in which the use of copper, zinc and their alloys was banned by a Ministry of Supply order in November —household appliances and electrical, gas and builder's fittings were among the articles listed—are to have a further 20-day period in which to finish partly-made goods containing the metals.

The original order (The Copper and Zinc Prohibited Uses (Ministry of Supply) (No. 2) Order 1951, S.I. 1951 No. 1906) gave them until February 1, 1952, to use up stocks of fabricated or partly-processed zinc and copper. A new order is to be made extending this period until February 20 and making amendments to the list of prohibited articles.

Liverpool Housing Allocations

Liverpool's allocation of houses for 1952 is 1,280, and the Housing Committee has recommended the City Council to allocate one-quarter of these to private enterprise.

NEWS IN BRIEF

Institute of Fuel

The Institute of Fuel, 18, Devonshire-street, Portland-place, W.1, have published a list of Officers, Council and Members as at April last. It also contains extracts from bye-laws and a list of published papers.

Legal Adviser to Two Ministries

The Minister of Health has approved the appointment of Mr. B. O'Brien to be solicitor and legal adviser to the Ministry of Health in succession to Sir Thomas Harrison, who retired from the Civil Service on December 31. Mr. O'Brien will also act as solicitor and legal adviser to the Ministry of Housing and Local Government.

New Park at Fulham

In a blitzed and derelict area off Lillie-road, Fulham, nearly 1½ acres have been transformed into the first section of a new park—Normand Park—which will eventually cover more than eight acres. The northern part of Fulham particularly is in need of open space, and it is here that the L.C.C. is compensating the borough for the loss of what would have been public open space on the Hurlingham Polo Grounds.

Solid Fuel Economy

The need for the co-operation of the consumer in the economical use of coal to reinforce the productive efforts of the miners was stressed by SIR HUBERT HOLDSWORTH, chairman of the National Coal Board, when he visited the Coal Utilisation Council's training centre, Vauxhall-walk, S.E.11, on January 7. Sir Hubert praised the work of the training centre where instruction is given to solid fuel appliance distributors (builders' merchants, coal merchants) so that they are in a position afterwards to give expert advice to the public on the selection, installation, use and maintenance of modern appliances.

As part of the national campaign to encourage the wider use of more efficient appliances, the N.C.B., said Sir Hubert, proposed to instal them on a large scale in the housing property owned by the Board in the area of the coalfields. He hoped local authorities would adopt a similar policy.

A vast quantity of coal was daily being burnt to waste at the moment, he said, but by using efficient appliances, consumers could help to create a situation in which fuel crises would not be constantly occurring, in which it would not be necessary to ask for special spurts in production and in which each winter period need not be approached with anxiety.

The Ideal Home Exhibition

A departure from the usual practice of showing half a dozen or so houses with no connection between them will be made at this year's *Daily Mail* Ideal Home Exhibition, which opens on March 4 when, instead, a model village, with houses, shops, and a public house, will occupy the whole of the National Hall between the pillars. The Ministry of Housing and Local Government are to show two of the new Government standard semi-detached dwellings and an old people's bungalow; these will be built by John Laing and Son, Ltd. The designers of the village are Mr. Trevor Smith, L.R.I.B.A., and Miss Norah Glover, A.R.I.B.A. The "pub" has been designed for the Brewers' Society by Mr. S. H. Fisher, F.R.I.B.A. The private enterprise builders are E. and L. Berg, Ltd.; C. H. Coates, Ltd.; and Davis Estates, Ltd. The Council of Industrial Design is assisting in the selection of furnishings.

NEW COMPANIES

THE FOLLOWING NEW COMPANIES, registered in England, have been announced by Jordan and Sons, Ltd., company registration agents.

Laughton and Fuller, Ltd. (501787). Regd. Nov. 28. 80, High-st., Brandon, Suffolk, bldrs., bldg. contractors, etc. Nom. cap.: £1,000. Dir.: F. J. Laughton.

E. G. Brand and Co., Ltd. (501815). Regd. Nov. 29, 150, Westerfield-rd., Ipswich, bldrs, etc. Nom. cap.: £5,000. Dir.: E. G. Brand.

Flett and Wake, Ltd. (501824). Regd. Nov. 29, 84, Hatton Garden, E.C.1, bldrs., etc. Nom. cap.: £3,000. Dir.: V. A. Wake, 94, Molfort-rd., Thornton Heath, Surrey.

J. N. Oakley, Ltd. (501826). Regd. Nov. 29, 73, Halliwick-rd., Muswell Hill, N.10, b.drs, bricklayers, etc. Nom. cap.: £1,000. Dir.: J. N. Oakley.

Barry High, Ltd. (501885). Regd. Dec. 1, The Wood-hse., Cockfosters, Herts, bldrs., etc. Nom. cap.: £2,000. Dir.: B. L. High, 3, The Grange, Cockfosters, Herts.

G. C. Tyler, Ltd. (501906). Regd. Dec. 1, 29, Yarborough-rd., Grimsby, b.drs., etc. Nom. cap.: £2,000. Dir.: G. C. Tyler.

Hartland Bros., Ltd. (501941). Regd. Dec. 1, 19, Wentworth Way, Rainham, Essex, bldrs., contractors, etc. Nom. cap.: £100. Dir.: H. G. Hartland, 15, Lambeth-rd., South Benfleet, Essex.

Gibson Construction Co., Ltd. (502960). Regd. Dec. 3, Haddricks Mill-rd., South Gosforth, Newcastle-on-Tyne, civil engrs., public works contractors and bldrs., etc. Nom. cap.: £5,000. Dir.: R. F. F. Gibson, 68, Beatty-ave., Newcastle-on-Tyne, 2.

S. J. H. Sparkes & Sons, Ltd. (502006). Regd. Dec. 4, 20, Devonshire-rd., Cambridge, bldrs. and engrs. Nom. cap.: £1,000. Dir.: S. J. H. Sparkes.

Binns, Kirk & Co., Ltd. (502023). Regd. Dec. 5, Bank-bldgs., Huddersfield-rd., Brighouse, b.drs., etc. Nom. cap.: £100 in £1 shares. Dirs.: J. A. Binns, 29, Smithy Carr-la., Brighouse.

C.E. Contracts (Bristol), Ltd. (502342). Regd. Dec. 14, 7-9, St. Nicholas-st., Bristol, genl. and civil contractors, etc. Nom. cap.: £100. Sub.: S. W. H. Scawen, 123, Hampton-rd., Redland, Bristol, 6.

Raynor Contracting Co., Ltd. (502320). Regd. Dec. 13, 7, Ellis-ave., Hucknall, Notts., bldrs., contractors, etc. Nom. cap.: £10,000. Dir.: J. A. Raynor.

James Robinson & Sons (Northampton), Ltd. (502304). Regd. Dec. 13, 65, Kingsthorpe Hollow, Northampton, bldr. and contractor, etc. Nom. cap.: £3,000. Dir.: J. Robinson, 24, Kingsthorpe-gr., Northampton.

H. Scott (Bingley), Ltd. (502302). Regd. Dec. 13, Industrial-st., Bingley, bldrs. and contractors, etc. Nom. cap.: £1,000. Dir.: H. Scott, Cliffe Farm, Morton-la., Morton, Bingley.

A. Rowe (Builders), Ltd. (502284). Regd. Dec. 13, 75, Kingston-rd., Staines, Middx. Nom. cap.: £2,500. Dir.: A. C. Rowe.

L. R. Dence & Son, Ltd. (502220). Regd. Dec. 11, 26, Station-rd., Sittingbourne, Kent, bldrs. Nom. cap.: £2,000. Dirs.: Mrs. A. Dence.

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TRADE NEWS

Domestic Boilers

In our issue for January 4 we referred to a new range of domestic boilers to be introduced by Ideal Boilers and Radiators, Ltd. In this we stated that the O-XLB boiler superseded the current model known as O-ZLA. This should have read O-XLA.

The Mayes Store, Southampton

In connection with the illustrated article on Messrs. Mayes store, Southampton, which appeared in our issue of December 21 last, we have since been informed by Campbell Denis, Ltd., of London, S.W.1, that they were responsible for a considerable amount of the suspended ceiling work on this contract.

Midget Winch and Jib

The Midget Winch and Scaffold Jib, which has been recently introduced by A.C.E. Machinery, Ltd., is controlled by means of a single weighted operating lever. The winch incorporates a three-speed drive giving direct lifts from 1 to 3 cwt., and up to 5 cwt. on two part rope with the jib, and a range of speeds from 45 ft. to 175 ft. per minute.

Modern Partitions

One of the answers to the acute shortage of office accommodation lies in carefully planned partitioning, to segregate departments and to split up large spaces. C. F. Anderson, Ltd., Harris Wharf, Graham-st., N.1, claim that they have an answer to most partitioning problems and have published a folder giving details of various systems of partitioning. The materials they use are licence free, strong and can be erected with the minimum of timber or aluminium framing—if timber is used, it need not be of a kind that requires a licence.

Light Excavator Film

Many people will remember the excellent colour film shown on the stand of the Chaseside Engineering Co., Ltd., at the recent Building Exhibition, which demonstrated the type of work their light excavator could undertake for the builder and contractor. The company are now able to offer copies of this 16-mm. film, free of charge, to appropriate associations for showing to their members and can, if necessary, provide a suitable projector and operator. This film, which is 700-ft. long, runs for 20 minutes. The company have also issued a new leaflet entitled "Take the Backache out of Building with the Chaseside," copies of which can be obtained from them at Station Works, Hertford, Herts.

PERSONAL COLUMN

OWING to the large expansion of the company's business during the past few years, and to share the increased duties devolving upon the present managing director, Mr. Montague Burningham, the board of Keith Blackman, Ltd., has appointed Mr. D. S. Woodley, A.M.I.Mech.E., M.I.H.V.E., to act as joint managing director with Mr. Burningham as from January 1, 1952. Mr. S. E. Nelson, B.A.(Cantab.), will succeed Mr. Woodley as chief engineer of the company.

MR. SYDNEY HARVEY, Chairman of G. A. Harvey and Co. (London), Ltd., Greenwich Metal Works, London, S.E.7, was presented with an illuminated volume when he completed fifty years' service with the company on December 12.

AT THE staff dinner of James Carmichael (Contractors), Ltd., held on December 21 last, a presentation was made to the secretary, Mr. G. W. Banfield, who retired at the end of the year. The chairman stated that Mr. Banfield was the fourth member of the firm to have completed, during the past few months, over 50 years' service with the firm, and that two of these employees were still actively at work.

THE SCOTTISH BUILDER

Proposed Hospital

THE EASTERN REGIONAL HOSPITAL BOARD of Scotland, meeting at Dundee, had before them a proposal for the erection of a future hospital. They considered two alternative types of building, two- or three-storey, which would of necessity occupy many acres; or alternatively a nine-storey project. It was eventually agreed that the design should be for 700 to 800 beds and be of four to six storeys in height.

Television Aerials

THE DEAN OF GUILD COURT of Dunfermline Burgh have decided that before television aerials are erected in the Burgh the approval of the Court must be sought and obtained.

Scotland's Housing in November

THE NUMBER of new permanent houses and flats completed in Scotland in September was 2,011. This brings the total of new houses and flats built under the post-war building programme up to 143,185 (111,009 permanent and 32,176 temporary). Including accommodation made available by conversions and adaptation of existing premises, requisitioning and in Service camps, 155,496 homes have now been provided in Scotland since the war.

These figures are included in the Housing Summary presented to Parliament by the Minister of Housing and Local Government and the Secretary of State for Scotland.

November's total of 2,011 new permanent houses and flats includes 1,861 built by local authorities and the Scottish Special Housing Association, 100 by private builders, and 50 by Government Departments.

Aberdeen's Eight-storey Flats

PLANS have now been prepared by Mr. A. B. Gardner, Aberdeen city architect, and approved by the housing committee, for the erection of 426 homes in blocks of three-storey flats and four-storey maisonettes, with one dominating block of eight storeys, on a 30-acre site at Ashgrove-road.

The scheme will be the most ambitious since Aberdeen won the Saltire Society award for the Rosemount-square housing layout.

The eight-storey building will stand on the highest ground in the estate and will provide homes for 32 families. It will be constructed of reinforced concrete and dressed in materials to harmonise with Aberdeen's traditional grey granite.

This Aberdeen "skyscraper" is likely to be the forerunner of several buildings of similar design in the city, as for some time now it has been recognised by the Town Council that they have almost reached the limit of outward development from the city.

NEW BUILDINGS

Argyllshire.—The North of Scotland Hydro Electric Board are to extend the Bunanuisg generating station at Bowmore in the island of Islay.

Baillieston.—Lanarkshire C.C. propose to erect 42 houses at Muirside-st. housing site, for which the architect is Samuel MacColl, F.R.I.B.A., County-chbrs., Beckford-rd., Hamilton.

Calderoruix.—Lanarkshire C.C. to erect a seventh development of the housing scheme consisting of 30 houses, for which plans are to be prepared by Samuel MacColl, F.R.I.B.A., County-chbrs., Hamilton.

Cambuslang.—Plans to be prepared for new extensions and other additions to The Busheyhill Halls, for which the architect is George Cameron, 1, Kinloch-av., Cambuslang.

Eddlewood.—Plans in hand for six houses, new garages, etc., to be erected at Strathaven-rd., for which the architect is Samuel MacColl, F.R.I.B.A., County-chbrs., Beckford-st., Hamilton.

Glasgow.—Plans to be prepared for extensions and other works at Brawbridge-rd., Pollokshaws, for Adam Miller & Sons, Ltd., for which the architects are White & Nicol, F.R.I.B.A., 31, North Frederick-st., George-sq., Glasgow, C.1.

Glasgow.—Plans to be prepared for new offices, also staff accommodation, etc., for Watson & Maclean, Ltd., to be erected at Harmony-row, for which the architects are James Taylor Thomson & MacCrae, 212, Bath-st., Blythswood, Glasgow, W.C.2.

Glasgow.—Plans in hand for alterations and additions for John S. Craig & Co., Ltd., to be constructed at 85-127, Portman-st., for which the architect is A. D. Hyslop (Campbell & Hyslop), United Kingdom Insurance Offices, St. Vincent-st., Glasgow, W.C.2.

Glasgow.—Plans to be prepared for new commercial garage and new workshops, etc., to be erected at Dennistoun, for which the architect is W. Kobealke, Springfield-rd., Dennistoun, Glasgow, C.

Greenock.—Plans to be prepared for the Western Regional Hospital Board for a new extension to the Rankine Maternity Hospital, to provide another 50 beds. The architect is Forbes Murison, F.R.I.B.A., 64, West Regent-st., Blythswood, Glasgow, W.C.2.

Lanark.—Corporation to erect 16 houses at Kildare site, for which the architects are White & Barrie, F.R.I.B.A., 32, High-st., Lanark.

Lanarkshire.—Plans in hand for new warehouse, new showrooms, etc., to be erected by James Riddell, Ltd., Riggend. The architects are John Scotland & Son, F.R.I.B.A., Bank-st., Graham-sq., Airdrie.

Port Glasgow.—Corporation to erect new shopping centres for the residential districts of Dubbs; the Devol, and also at Bogglestone, for which preliminary plans have been prepared by Ian MacLean, Burgh Surveyor, Master of Works Office, Municipal Offices, Port Glasgow.

West of Scotland.—Scottish Industrial Estates, Ltd., have been given authority to construct some further 500,000 sq. ft. of factory space.

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FUTURE CONSTRUCTION

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

JANUARY 14.

*†**Coventry T.C.**—Erection of infants' department at Howes prim. sch. Hellberg and Harris, 15, Queen Victoria-rd., Coventry. Dep. £2 2s.

*†**Enfield U.D.C.**—Public convenience, Sydney-rd. F. Lee, E. & S., 7, Little Park-gdns. Dep. £2 2s. Tenders by Feb. 1.

JANUARY 16.

*†**Bristol T.C.**—Primary school, Southmead estate. J. Nelson Meredith (F.), City A. Dep. £2 2s. Tenders by February 21.

*†**Isle of Ely C.C.**—Erection of infants' school, March. County A. Dep. £4 4s. Tenders by Feb. 11.

*†**Isle of Ely C.C.**—Erection of infants' school, Wisbech. County A. Dep. £4 4s. Tenders by Feb. 11.

*†**Watford B.C.**—Erection of public conveniences at North Watford Library. B.E. & S., Town Hall. Dep. £1 1s. Tenders by February 6.

*†**Watford B.C.**—Alterations and extension to Town Hall. B.E. & S., Town Hall. Dep. £1 1s. Tenders by February 6.

JANUARY 18.

*†**Bucks Standing Joint Com.**—Ten pairs and three police houses on various sites. County A., Aylesbury. Dep. £2 2s. each. Tenders by February 14.

*†**Cumberland C.C.**—Secondary modern school, Maryport. J. H. Haughan (F.), County A., Carlisle.

Leominster and Wigmore R.D.C.—Ten houses at Kimbolton. A. Stephenson, 11, Corn-sq.

*†**Newcastle Regional Hospital Board.**—Four staff houses, Prudhoe and Monkton Hospital. E. B. Jenkins, Sec., Dunira, Osborne-rd.

*†**Southend-on-Sea C.B.**—Additions, Connaught House, Rochford. Boro' A. Dep. £2.

*†**West Sussex C.C.**—Erection of prim. school at Shoreham-by-Sea. County A., County Hall, Chichester.

JANUARY 19.

*†**Durham C.C.**—Technical Colleges, Durham and Easington, and infants' school, Peterlee. G. R. Clayton (F.), County A., Court-la., Durham.

JANUARY 21.

*†**Anglesey Ed. Com.**—Proposed new classrooms at St. Cybe Sch., Holyhead. County A., Shire Hall, Llangefni. Dep. £2 2s.

*†**Chester C.C.**—Hostel block, Wrenbury Hall Colony, near Nantwich. E. Mainwaring Parkes (F.), County A., Chester. Dep. £2 2s. Tenders by February 15.

Devizes B.C.—Ten houses with outbuildings, etc., Home Farm estate. J. D. Sheasby, Boro' S. & W.E., The Chequers, Devizes, Wilts. Dep. £2 2s.

JANUARY 22.

†**Frome R.D.C.**—Five pairs of houses at Mells Village, nr. Frome. Humphrey H. Goldsmith (F.), Council's A., 18, Gay-st., Bath. Dep. £2 2s.

JANUARY 23.

East Elloe R.D.C.—Eight aged persons' bungalows at Gedney Hill site. K. Atkinson, Mattimore-hse., Holbeach. Dep. £2 2s.

*†**Essex C.C.**—Erection of additional cloakrooms at Colchester Royal Grammar Sch. County A., County Hall, Chelmsford.

JANUARY 24.

*†**Peterborough T.C.**—90 houses, Dogsthorpe North estate. F. J. Smith, City E. & S. Dep. £2 2s. Tenders by February 18.

JANUARY 25.

*†**Gillingham B.C.**—Construction of in-situ reinforced concrete floors, roofs, stairs and canopies to 33 flats, Brompton redevelopment site. B.E. & S. Dep. £5 5s. Tenders by February 11.

JANUARY 26.

*†**Durham C.B.**—50 houses at Framwellgate Moor. City E. Dep. £2 2s.

JANUARY 28.

*†**Bradford T.C.**—Two infants' schools, Reevy Hill, and Canterbury-ave. City A.

*†**Bradford T.C.**—Classroom units at various school sites. City A.

*†**Dagenham B.C.** — Convenience, Morland-rd., Broad-st. B.E. & S. Dep. £2 2s.

*†**Durham C.C.**—House for Chief Fire Officer, Moor Edge, Durham. G. R. Clayton (F.), County A., Court-la., Durham.

*†**Durham C.C.**—House for fire station officer,

Billingham. G. R. Clayton (F.), County A., Court-la., Durham.

***St. Albans R.D.C.**—14 houses and four flats at Wheathampstead. Architect and Surveyor, 43, Upper Lattimore-rd.

***Watford B.C.**—Conversion of farm buildings at Woodside-hse., Garston, into dressing rooms, etc. B.E. & S., Town Hall. Dep. £2 2s.

JANUARY 29.

East Barnet U.D.C.—12 flats at Fordham-rd. E. & S., Town Hall. Dep. £2 2s.

***South Cambridgeshire R.D.C.—Ten houses, Great Abington. Council's A, County Hall, Cambridge. Dep. £2 2s.**

JANUARY 31.

Oakham U.D.C.—18 houses and site development, Burley-rd. F. J. Lenton and Partners, architects, 16, Broad-st., Stamford, Lincs.

FEBRUARY 1.

***Berkshire C.C.**—Four police houses, Love-la., Newbury. County A., Wilton-hse., Parkside-rd., Reading. Dep. £2 2s.

East Riding C.C.—Four police houses at Lowfield-rd., Anlaby. County A., County Hall, Beverley Dep. £2 2s.

***Reigate B.C.**—63 houses and outbuildings at Rushetts Farm estate. B.E. & S., Town Hall. Dep. £5 5s.

***Sunderland C.B.**—Prim. jun. school and kitchen dining room, Grindon estate. Boro' A. Dep. £2 2s.

FEBRUARY 2.

***†Hants C.C.**—Primary school, Somerford, Christchurch. County A., Winchester. Dep. £2 2s. Tenders by Feb. 29.

FEBRUARY 4.

Lowestoft B.C.—22 dwellings at Gunton estate B.E., Town Hall. Dep. £2 2s.

***Swansea C.B.**—Supply and erection of structural steelwork for multilateral school at Penlan. Boro' A., Guildhall. Dep. £5.

***Teignmouth U.D.C.**—Six old persons' dwellings, Second-av. T. W. Lee Edwards, Clerk. Dep. £2 2s.

***Weymouth-Melcombe Regis B.C.**—24 flats, Downclose estate. B.E. & S., 6, Pulteney-bldgs. Dep. £2 2s.

FEBRUARY 5.

***Witham U.D.C.**—18 houses, Maldon-rd development, Howbridge area. S. Bragg (A.), 16, London-rd., Chelmsford. Dep. £2 2s.

FEBRUARY 6.

***Camelford R.D.C.**—22 houses on five sites. W. A. Hawkey, Clerk.

***Esher U.D.C.**—40 houses (four contracts) at Slough Farm housing estate, Claygate. S., Council Offices. Dep. £1 1s. each contract.

***†Hants C.C.**—Secondary school, Fordingbridge. County A., Winchester. Dep. £3 3s. Tenders by March 11.

FEBRUARY 7.

***Bootle C.B.**—Grammar-Technical school for boys, New Park Farm site, Bridge-la., Netherton. W. A. Harrison. B.S. Dep. £2 2s.

***Oldham C.B.**—Erection of extension to Assembly Hall, etc., at Hollins Sec. Mod. Sch., Lyndhurst-rd. Architect, Education Offices, Union-st. West. Dep. £2 2s.

***Romsey B.C.**—24 flats (six blocks of four) at Hillside-ave. B.E. & S., Town Hall.

FEBRUARY 8.

Meriden R.D.C.—52 houses at Nuneaton-rd., Arley. E. & S., The Old Vicarage, Coleshill, nr. Birmingham. Dep. £2 2s.

***North Riding E.C.**—Primary school, Haxby, near York. F. Barraclough, Sec. for Education, County Hall, Northallerton.

FEBRUARY 9.

Oswaldtwistle U.D.C.—27 houses, Grove-st. estate. T. D. Manning, E. & S. Dep. £2 2s.

Zetland C.C.—80 houses at ten sites. D. A. Adamson, 48, Melville-st., Edinburgh, 3.

FEBRUARY 11.

***New Windsor Boro'.**—28 houses, Imperial-rd. housing site. B.E., Kipling Memorial-bldgs., Almard. Dep. £2 2s.

FEBRUARY 12.

***Flints C.C.**—Secondary school, Saltney. W. Griffiths (L.), County A., Llwynegrin, Mold. Dep. £3 3s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

JANUARY 18.

Beckenham B.C.—B.E. (Materials.)

JANUARY 21.

Wimbledon B.C.—B.E. & S. (Materials.)

JANUARY 23.

Birkenhead C.B.—General Manager. (Materials.)
Winchester T.C.—C.E. (Materials.)
Wood Green B.C.—E. & S. (Materials.)

JANUARY 25.

Bath T.C.—City and Waterworks Engineer. (Materials.)

JANUARY 26.

Bradford T.C.—E. & S. (Materials.)

JANUARY 28.

Bebington B.C.—E. & S. (Materials.)
Bucks C.C.—C.S. (Materials.)

"THE BUILDER" PRICES
BATH AND PORTLAND STONE

Owing to the recent increase of 10 per cent. in railway rates the Bath and Portland Stone Firms, Ltd., have revised the prices for block stone delivered London stations. New prices are as follows:—

BATH STONE.
Monks Park 6s. 4d. per ft. cube on rail at South Lambeth Station.
St. Aldhelm Box Ground 7s. 4d. per ft. cube on rail at South Lambeth Station.

DOULTING STONE 7s. 1d. per ft. cube delivered London area.

BEER STONE 6s. 8d. per ft. cube delivered London area.

PORTLAND STONE—Brown Whitbed 7s. 1d. per ft. cube on rail at Nine Elms Station.

JANUARY 30.

Morecambe and Heysham B.C.—Boro' S. (Materials.)
Southwark B.C.—T.C. (Materials.)

JANUARY 31.

Leighton Buzzard U.D.C.—E. & S. (Materials.)
Orpington U.D.C.—E. & S. (Materials.)

FEBRUARY 1.

St. Marylebone B.C.—T.C. (Materials.)
Tottenham B.C.—T.C. (Materials.)
Wakefield T.C.—C.E. (Materials.)

FEBRUARY 2.

Brentwood U.D.C.—E. & S. (Materials.)
Enfield B.C.—E. & S. (Materials.)
***Welwyn Garden City U.D.C.**—Internal redecoration of Digswell pumping station. R. V. Scoffham, E. & S.

FEBRUARY 4.

Bournemouth C.B.—B.E. (Materials.)
Rhondda U.D.C.—E. & S. (Materials.)
Southampton B.C.—E. & S. (Materials.)

FEBRUARY 5.

Caterham and Warlingham U.D.C.—E. & S. (Materials.)
***Gillingham B.C.**—B.E. & S. (Materials).

FEBRUARY 8.

Breconshire C.C.—C.S. (Materials.)
Pembrokeshire C.C.—C.S. (Materials.)

"STIC B"
STONE COVERING
A DECORATIVE AND WATERPROOFING
TREATMENT FOR CONCRETE
CEMENT RENDERING
BRICKWORK, ASBESTOS, ETC.
"STIC B" PAINT SALES LTD.
47, WHITEHALL, S.W.1
WHITEHALL 9958

FEBRUARY 9.

Caernarvonshire C.C.—C.S. (Materials.)
Swansea C.B.—B.E. & S. (Materials.)

FEBRUARY 18.

Frimley and Camberley U.D.C.—E. & S. (Materials.)

ROADS, SEWERAGE AND WATER WORKS

JANUARY 28.

Havant and Waterloo U.D.C.—Construction of roads and sewers, Purbrook housing scheme. E. & S., 1, Park-rd. North, Havant. Dep. £2 2s.

FEBRUARY 7.

***Romsey B.C.**—Street and site preparation works at Hillside-ave. B.E. & S., Town Hall.

GENERAL BUILDING WORK

(LONDON)

Dagenham.—SECONDARY SCHOOL.—Essex C.C. Ed. Com. have approved sketch plans for proposed R.C. secondary school. Plans by Sterrett and Blouet, A./A.R.I.B.A., 3, Ashley-pl., S.W.1.

Elephant and Castle.—REBUILDING OF CHURCH.—R. Mountford Pigott, M.C., J.P., F.R.I.B.A., 3, Cromwell-pl., S.W.7, is to prepare plans for the rebuilding of Spurgeon's Nonconformist Church for the officials of the Tabernacle.

Marble Arch.—NEW CHURCH.—Roman Catholic organising committee propose to build a new church next to the Tyburn Convent, 6-7, Hyde Park-pl., at an estimated cost of £70,000. Architects are Nicholas and Dixon-Spain, F./F.R.I.B.A., 19, Hanover-sq., W.1.

Putney.—DWELLINGS.—Wandsworth B.C. to build 296 maisonettes, 56 houses and 18 aged persons' dwellings at Putney Vale estate. Plans by Arthur W. Kenyon, F.R.I.B.A., 15, Adeline-pl., Bedford-sq., W.C.1.

Westminster.—OFFICE BUILDING.—Tothill Press, Ltd., 33, Tothill-st., S.W.1, propose to erect an office building on a site near Caxton Hall Register Office. Architects are Yates, Cook and Darbyshire, 43, Gt. Marlborough-st., W.1.

Woodford Green.—Essex C.C. Welfare Com. have approved plans for adaptations and extensions to Brookfield at an est. cost of £20,183. Plans by County Architect's dept.

(PROVINCIAL)

Adwick.—U.D.C. propose to erect 70 houses at Carcroft and shopping centre at New Woodlands housing estate. Plans by Council's Architect.

Alston.—Graham & Roy, L/A.R.I.B.A., 6, Paternoster-row, have prepared plans for proposed houses at Grisedale-la.

Ammanford.—U.D.C. propose to build 64 houses and 12 flats at Bishop-rd. estate.

Ashbourne.—U.D.C. to prepare detailed estimates for an attested section at Cattle Market.—R.D.C. to erect 20 houses on sites at Fenny Bentley, Yeavely, Parwich and Brailsford.

Ashton-in-Makerfield.—U.D.C. to erect 290 houses on Landgate site by Direct Labour.

Atcham (Salop).—R.D.C. approved plans for 10 houses at Bomere Heath; 10, Minsterley; 12, Buildwas; 6, Church Preen; and 10 bungalows at Pontesbury.

Baildon.—W. Illingworth & Son, F/L.R.I.B.A., 15, Sunbridge-rd., Bradford, has prepared plans for U.D.C.'s proposed shops, houses, flats and garages at Knoll estate.

Basildon.—Bonallack & Sons, Ltd., Nursery-la., Forest Gate, E.7, propose to build new works.

Bath.—Snailum, Huggins & Le Feve, F/AA.R.I.B.A., 18, Brock-st., have prepared plans for laboratory extensions, etc., to Domestic Science Training College.

Birkenhead.—Norman Foods, Ltd., propose to build works extension at Canning-st.

Cardiff.—British Ropes, Ltd., to build works extensions at Western-ave.

Chelmsford.—Essex C.C. Welfare Com. have approved plans for alterations and additions at Highfield, London-rd., to cost £13,547. Plans by County Architect's dept.

Cheltenham.—Louis de Soissons & Partners, F/AA.R.I.B.A., 3, Park-sq. Mews, N.W.1, have prepared plans for proposed 204 flats at Arle and Hesters Way estate.

Clayton-Le-Moors.—U.D.C. propose new assembly hall at Woodlands.

Clevedon.—R. O. Harris, F.R.I.B.A., Somerset County Architect, Park-st., Taunton, has prepared plans for Coleridge Vale jun. and inf. sch.

Crewe.—M.E. to include cty. sec. sch., Shavington, in 1952 programme.

Cumberland.—C.C. to carry out alterations at Fingland Voluntary Controlled sch. Plans by Cty. A., Portland-sq., Carlisle.

Cwmbran.—Minoprio & Spenceley, FF.R.I.B.A., 18, Seymour-st., Portman-sq., W.1, have prepared plans for development of new town.

Essex.—Minister of Education has approved following projects for inclusion in Reserve List to 1952-53 programme or to constitute the first part of 1953-54 building programme:—Braintree North County jun. sch., £73,920; Broomfield County sec. mod., £134,640; Brentwood Hogarth County infants', £36,960; Chigwell Great West Hatch County sec. technical (first instalment); Debden L.C.C. Estate R.S. jun., £49,280; Dagenham Oxlow-la. County

infants', £36,960; Ilford The Glade County prim., £15,00.

Ilford Gilbert Colvin County prim., £5,000; Romford Harold Hill Site No. 7 County prim., £86,240; Basildon Barstable County sec., £134,640; Harlow Mark Hall No. 3 County prim., £86,240; and Harlow Mark Hall No. 2 County sec.

Harlow.—Essex C.C. Education Com. have approved sketch plans for proposed secondary sch. at est. cost of £321,975. Plans by Richard Sheppard & Partners, F/AA.R.I.B.A., 21, Coram-st., W.C.1.

Harwich.—B.C. propose erection of 124 houses at Pound Farm housing scheme, Dovercourt. Plans by Boro' A., King's Quay-st.

Heanor.—U.D.C. to build 22 houses at Hardy-cres. site, and 52 at Marlpool Farm estate.

Hepton.—R.D.C. seek approval for draft layout for houses at Whitehall Farm, Heptonstall.

Hertford.—Howes & Jackman, FF.R.I.B.A., 1, Verulam-bldgs., Gray's Inn, have prepared plans for proposed public hall at Horns Hill.

Heywood.—M.O.W. propose new telephone exchange fronting Church-st.—B.C. seek M.O.H. approval for 40 three-bedroom, 20 two-bedroom and 10 maisonettes at Unity-st.; to prepare type plan for 30 houses, Sussex-ave.; 14 houses, Bury-st.; 12 maisonettes, Mount-st.—B.C. approved plans for a factory unit, Green-la., for D. Horwich, 1, Brazennose-st., Manchester 2.

Hinckley.—U.D.C. architect has prepared plans for proposed bus station between Lancaster-rd. and Rugby-rd.

Hinckley.—U.D.C. to build 26 houses at Burgage, 46 at Barwell and 28 at Earl Shilton.

Horwich.—U.D.C. to erect 60 houses for key workers at De Havillands.

Leeds.—City A. has prepared plans for Seacroft West C.P. sch.

Luton.—B.C. to erect 340 houses at Bambridge estate.

Margate.—W. R. H. Gardner, F.R.I.B.A., 8, Cecil-sq., has prepared plans for inf. sch. at Grange-rd.

Margate.—B.C. to build 32 flats and 87 houses at Crow Hill-rd. site.

Matlock.—U.D.C. propose new bus station off Bakewell-rd., at £12,500.—R.C. Authorities propose new jun. and inf. sch. off Chesterfield-rd.

Middlesbrough.—Garbutt, Archibald & Archibald, 23, Albert-rd., Middlesbrough, have prepared layout plans for 34 houses at Asterley-dr., for E. T. Sweeting & Son, Church-la., Acklam, Middlesbrough. T. A. Crawford, Borough-rd., Middlesbrough, is the architect for proposed ice-cream factory at Linthorpe-rd., and temperance bar, with flat, at Croydon-rd., for Rea's Creamy Ices, Ltd.

Middlesbrough.—Kitching & Co., 21, Albert-rd., Middlesbrough, have prepared plans for factory, office and store at Commercial-st., for R. Sowerby.

Middleton.—Lancs C.C. propose new fire stn. at Bowlee.—B.C. approved layout for 160 houses at Brookside for key workers.

Approved plans for:—Rebuilding dyehouse, weaving shed, warehouse and loading bay at Rhodes Works, for Calico Printers' Association, Ltd., Manchester; alterations to showroom and offices at Gas Service Centre, for N.W. Gas Board (architects, Grimshaw & Townsend, 24, Willow-st., Accrington); extensions, No. 6 scheme D (two-storey) at Cromer Ring Mill (1919), Ltd. (architects, Taylor, Roberts & Bowman, Clegg-st., Oldham); extensions, Middleton Junction Social Club (architect, G. Siddall, 55, Clarendon-st., Audenshaw).

Newcastle-on-Tyne.—J. Lawrie & Co., propose to build food-packing station at Brinkburn-st. Plans by G. S. Sell, 11, Rectory-ter., Gosforth.

Newcastle-on-Tyne.—British Paints, Ltd., Portland-rd., are to build offices, canteen and garage. Architects are T. A. Page, Son & Hill, 75, King-st., South Shields.

Newcastle-on-Tyne.—Further extensions are to be made to Lees Bakeries at Industry-rd. Plans by Cackett, Burns Dick & McKellar, 21, Ellison-pl., Newcastle.

Newcastle-on-Tyne.—T.C. has had £315,000 plan for blocks of flats at Hindhaugh-st. clearance area approved by M.H. & L.G.

Peterborough.—C.C. propose hostel for old people at Thorpe-rd., to cost £28,000. Plans by Architect, Boke of Peterborough C.C., Town Hall.

Rochdale.—B.C. approved plans for:—Apprentices' sch., Smalley-st., for Tweedale & Smalley, Ltd.; warehouse, River-st., for Core Ooils, Ltd.

Rotherham.—B.C. propose erection of an industrial centre for mental defectives, adjoining present occupation centre; also new health centre.—B.C. approved plans for further types of houses at Kimberworth estate.

Rotherham.—British Oxygen Co., Ltd., 24, Grafton-st., W.1, propose to build factory at Bawtry-rd.

Salford.—E.C. approved preliminary sketch plans for Claremont Grammar sch. (architects, Taylor & Young, Oxford-rd., Manchester).

Scunthorpe.—Lindsey Ctv. A., Lincoln, has prepared plans for canteen at grammar sch.

Standish.—U.D.C. seek loan of £36,140 for 20 houses and eight flats at Grove-la. estate.

Stockport.—Dobson Chapman, Macclesfield, has prepared plans for three-storey buildings with shops at Binnington estate.

Stretford.—B.C. propose 22 one-bedroomed flats at Moss Park-rd. Plans submitted to B.C. for:—Alterations to works annexes, Barton Dock-rd. for Massey, Harris, Ltd.; works extensions, Talbot-rd., for Glacier Metal Co., Ltd.; six houses, Kings-rd., for Littler & Rich.

Sutton-in-Ashfield (Notts).—U.D.C. approved plans for 14 flats and 11 maisonettes on Willow-bridge-la. and West End housing site.

Tottington.—Leach, Rhodes & Walker, A/LL.R.I.B.A., 90, Deansgate, Manchester 3, have prepared plans for houses for Rigg Bros., Ltd.

Wakefield.—T.C. propose two child welfare centres at Alverthorpe and Eastmoor areas in 1952/3 programme.

Wallasey.—B.C. to negotiate with J. L. Leech & Co., 433, Leasowe-rd., for erection of 12 houses at Leasowe-rd.

Warwick.—B.C. to prepare plans for two-storey block of flats and houses, Birmingham-rd. Saltisford Common.

Watford.—British Drug Houses, Ltd., to build factory premises at Graham-st., N.1.

Watford.—Montague Burton, Ltd., Hudson-rd. Mills, Leeds, propose to build showrooms, shops and restaurant at High-st. and Upton-rd.

West Bromwich.—Sandwell Castings Co., Ltd., Bank-st., propose to build gravity and pressure die-casting premises.

Widnes.—Boro' A., Brendan House, Widnes-rd., has prepared plans for stage 1 of College of Further Education and first section of Ditchfield-rd. cty. prim. sch.

TENDERS

* Denotes *accepted*.
† Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.
¶ Denotes *accepted by H.M. Government Departments*.

Bakewell.—Eight flats at Hathersage, for U.D.C.: *H. Haywood, £10,142.

Beaminster.—14 houses at Hogshill Mead, for R.D.C.: *Woolaway Constructions, Ltd., £23,722.

Beaminster.—Four houses at Vale View estate, Salwayash: *Jesty & Baker, £5,806.

Beaminster.—Four houses at South Perrott, for R.D.C.: *R. G. Spiller, Ltd., Crewkerne, £6,146.

Beston and Stapleford.—12 houses at Ryecroft estate, for U.D.C.: *Rice & Beck, Ltd., High-rd., Toton, Notts.

Billingham-on-Tees.—Six houses at Roseberry-rd., for U.D.C. Kitching & Co., architects, 21, Albert-rd., Middlesbrough: *Stephen Coates, Ltd., Middlesbrough, £7,791.

Birmingham.—Sec. mod. sch. at Woodbrooke-rd., for E.C.: *Percy W. Cox, Ltd., Grove-la., Birmingham, £114,532.

Bradford.—18 houses at Reevy-rd., for T.C.: *H. G. Brooke, Bradford, £25,676.

Cardiff.—Erection of prim. sch. at Bwlch-rd.: *P. Jeans & Co., Ltd., 71, Moorland-rd.

Clayton-le-Moors.—100 houses at Fields Bottoms site, for U.D.C.: *R. Fielding & Sons, Ltd., Blackpool, £138,635.

Cleator Moor.—Erection of R.C. sec. mod. sch., for Cumberland E.C.: *P. A. Baines & Son, Culgaith.

Cockermouth.—66 Trusteel houses, for R.D.C.: *T. Armstrong, Ltd., Cockermouth, £95,400.

FOR
'VITROLITE'—
MIRRORS—
AND ALL
GLASS
SUPPLIES
in
1952
—
AYGEE
LONDON, S.E.1.
WATerloo 6314
(10 lines)

Derby.—Construction of pathological laboratory at Derbyshire Royal Infirmary, for Sheffield Regional Hospital Board: *Ford & Weston, Ltd., Osmaston-rd., Derby.

Derby.—Erection of factory for Foister Clay & Ward, Ltd.: *F. Gamer & Sons, Belgrave-rd., Leicester.

Derby.—Conversion of premises at 26, Market-pl. as staff canteen, for T.C.: *George Peech & Son, Alfreton-rd., Derby, £5,349.

Glasgow.—New Balarnock Protestant Public School. Mr. John MacNab, F.R.I.B.A., architect, 122, Bath-st., Blythswood, Glasgow, W.C.2. *Angus M. Macdougall & Co., Ltd., Bridgeton, Glasgow.

Heywood.—32 houses at Gooden Farm estate: *Wm. Townson & Sons, Ltd., Park Hill-st., Bolton.

Holborn.—Erection of nurses' home at St. Paul's Hospital, Endell-st.: *W. S. Try, Ltd., High-st., Cowley, Uxbridge.

Irthlingborough.—24 flats for U.D.C.: *Drury & Co., Ltd., Wellingborough, £26,919.

Leicester.—Houses for T.C.:—10 at Braunston-ave. and Fullhurst-ave., and six at The Fairway: *A. E. Matlock, 59, Rowley Fields-ave., £28,705; and eight at Caledine-rd. and Frolesworth-rd.: *Frank Ellson, Ltd., New-st., Oadby.

¶London (Admiralty).—Particulars of contracts placed by Civil Engineer-in-Chief's Department, Admiralty:—

Baverstock, Wilts.—Regrading of roads and resurfacing, etc., W. & J. Glossop, Ltd., 101, Cowick-st., Exeter. *Portsmouth*: Trenching, Reed & Mallik, Ltd., Milford House, Salisbury.

¶London (Air Ministry).—Works contracts to the value of £500 or over placed by Directorate of Contracts for week ended January 5:—

Building work: Jelson, Ltd., Leicester; G. C. Munton, Ruskington, Sleaford; Ernest Colman, Ltd., East Kirkby, Notts.

Installation of heating services: Brightside Foundry and Engineering Co., Ltd., London, W.C.2. *Dismantling and re-erection of hangars*: West Midland Erection Co., Ltd., Willenhall, Staffs; Cozens and Sutcliffe, Ltd., Enfield, Middx.

¶London (M.O.W.).—Contracts placed by M.O.W. during week ended December 22:—

Aberdeenshire: H.P.O., Dee-st., Aberdeen, alterations, Jas. Scott & Son, 483-5, Union-st., Aberdeen. *Ayrshire*: Ryeside Mills, Dalry, adaptations, Barclay and Crawford, Craighouse-sq., Kilbirnie. *Glamorganshire*: Llandaff, erection of automatic telephone exchange, W. T. Nicholls, Ltd., St. Paul's-rd., Gloucester.

Herefordshire: Leominster, erection of automatic telephone exchange, Tressure & Son, Ltd., Temeside, Ludlow, Shropshire; Ross-on-Wye, erection of automatic telephone exchange, W. T. Nicholls, Ltd., St. Paul's-rd., Gloucester.

¶London (War Dept.).—Works contracts placed by W.D. during week ended December 29:—

Renfrewshire: Miscellaneous, James Preston & Sons, Greenock. *Essex*: Hutting, Jas. C. Flaxman & Sons, Shoeburyness. *Wiltshire*: Building work, Howard Farrow, Ltd., London, N.W.11.

Lanarkshire: Miscellaneous, Wm. Gordon & Co., Glasgow. *Anglesey*: Miscellaneous, C. W. Bretta (Anglesey), Ltd., Rhosneign.

L.C.C.—The undermentioned contracts exceeding £2,500 in value have been placed by the London County Council during the period December, 1951-January, 1952.

Goldsmith's Estate, erection of flats, F. Troy and Co., Ltd.; *Hampstead Heath extension*, reinstatement of the former A.A. site, En-Tout Cas Co., Ltd.; *Wormwood Scrubs*, reinstatement of the former A.A. site and Prisoner of War camp, En- Tout Cas Co., Ltd.; *Maryon Park and Plumstead Common*, reinstatement of various sites, etc., Grassphalte, Ltd.; *Beethoven County Secondary school, Paddington*, repairs and redecoration, Norman Sinclair, Ltd.; *Ennersdale County Primary school, Lewisham*, electrical installation, London Electricity Board.

Strand County Secondary school, war damage repairs, J. Ford and Sons (Lambeth), Ltd.; *Lilestone estate*, erection of flats and maisonettes, A. T. Rowley (London), Ltd.; *Vauxhall Gardens estate*, construction of flats and other work, Gee Walker and Slater, Ltd.; *Frampton Park estate*, construction of flats and other work, etc., E. H. Smith (Croydon), Ltd.; *Ruskin Park*, erection of staff lodge, Greenaway and Son, Ltd.; *Golders Hill and Parliament Hill*, erection of staff lodges, Callow and Wright, Ltd.

Woodberry Down comprehensive high school, supply of lifts, Hammond and Champness, Ltd.; *Woodberry Down estate*, erection of flats, Rowley Bros., Ltd.; *Abney Park County Primary school*, erection of school, G. E. Wallis and Sons, Ltd.; *Downberry County Primary school*, electrical installation, Thorpe and Thorpe, Ltd.

Manchester.—Factory extensions at Longley-la., Northenden, for J. Lee (Wearlee), Ltd.: *A. Cassel & Sons, Ltd., 1-3, Teneriffe-st., Salford.

Mansfield Woodhouse.—72 houses at Pump Hollow site, Forest Town, for U.D.C.: *C. H. Hill & Sons, Ltd., Victoria-st., Mansfield, £103,773.

Matlock.—20 houses at Hurst Farm estate, for U.D.C.: †Butterley & Co., Ltd., £31,230.

Newcastle.—Houses for B.C.: *Cornes Construc-

tion Co., Ltd., Station-rd., Tunstall (98); *A. Jones, Ltd., London-rd., Chesterton (23); and *Roberts Bros., 204, High-st., Hanley (12).

Nottingham.—108 houses at Clifton estate, for T.C.: *Hutchinson & Rostance, Ltd., £152,851.
Poplar.—258 maisonettes and flats at Teviot-st.: *Percy Bilton, Ltd., 113, Park-st., W.1.
Prudhoe-on-Tyne.—110 houses at Oaklands site, for U.D.C. Architect is J. M. Angus, 21, Lovaine-pl., Newcastle-on-Tyne: *Wimpey & Co., Ltd., Orchard-hse., Jesmond, Newcastle-on-Tyne.
Rochdale.—Further 26 houses at Kirkholt estate, for B.C.: *Jas. Hobson & Sons, Ltd., Nottingham.
Rotherham.—Erection of shops and workrooms at 25-27, High-st.: *Willsons (London and Provinces), Ltd., 46, Edgware-rd. W.2.
St. Austell.—26 houses at Poltair and two bungalows at Eliot-rd., for U.D.C.: *Facey, Lobb & Roberts, Ltd., Valley-rd., Mevagissey (subject to M.H. & L.G. approval).
Salford.—57 flats at Lord-st., Lower Broughton, for T.C.: *Henry Boot & Sons, Ltd., Sheffield, £81,351.
Sedgley.—16 flats at Gibbons Hill site, for U.D.C.: *Tomlinson Bros., Wolverhampton-rd., Sedgley, £17,020.
Stone.—72 houses for U.D.C.: †M. A. Boswell (Contractors), Ltd., £112,843.
Swansea.—Construction of showrooms and offices at High-st., for A. G. Meek: *Griffith Davies & Co., Ltd., Paxton Yard.
Thurrock.—10 bungalows at Giffords Cross-rd. housing site, Corringham, for U.D.C.:—
White Bros, San Diego, Southend-rd., Billericay £11,176
Tokeley & Goodger, Ltd., College-rd., Grays 10,813
Grays Thurrock Properties, The Barn, Dell-rd., Grays 10,649
*Thameside Bldg. Co., Ltd., 64, Whitehall-la., Grays 10,296
Tynemouth.—24 dwellings at Redburn View, for T.C. Plans by Boro' E., 16, Northumberland-sq., North Shields: *M. J. Liddell & Son, 36, Great North-rd., Newcastle-on-Tyne, £26,348.
Tynemouth.—20 houses in flats at Redburn View, for T.C. Plans by Boro' E., 16, Northumberland-sq., North Shields: *J. H. Rogers, Regent-ter., North Shields, £21,957.
Tynemouth.—62 houses at Chirton Grange, for T.C.: *J. H. Rogers, Regent-ter., North Shields.
Tynemouth.—160 houses at Chirton Grange, for T.C.: *M. J. Liddell & Sons, 36, Great North-rd., Newcastle-on-Tyne.
Upholland.—16 houses at Highgate estate, for U.D.C.: *J. Gaffney & Sons, Wigan, £19,282.
Wakefield.—Four shops and two flats at Eastmoor estate, for T.C.: *Abbotts (Sharlston), Ltd., Birkwood-hse., Pontefract-rd., Sharlston.
Wallasey.—Two blocks of three-storey flats at site P4, for B.C.: *Wm. Thornton & Sons, Ltd., 39, Wellington-rd., Liverpool.
Wallasey.—New R.C. Church at St. Georges-rd.: *Tysons (Contractors), Ltd., Dryden-st., Liverpool.
Wath-upon-Dearne.—52 houses, Campsall Field, for U.D.C.
Wade Construction Co., Ltd., Wath-upon-Dearne £88,674
*Bramall and Ogden, Wath-upon-Dearne ... 77,586
(Subject to M.H. and L.G. approval.)
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